

Meridian Mail

System Administration Utilities (RSC)

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Chapter 1: Introduction

Note: Some of the utilities (tools) described in this document are feature-dependent and may not be installed on your system.

TOOLS menu

The TOOLS menu provides access to some of the following system management utilities:

- ***Move user*** Use this utility to move users from one volume to another, one at a time.
- ***Modify hardware*** This utility can modify the hardware database.
- ***Set silence compression*** This utility compresses out recorded silence if turned on, or leaves it in if turned off.
- ***Control volume*** This utility allows you to control volume on Meridian Mail voice sessions.
- ***Update MWI*** This utility updates Message Waiting Indicators (MWIs) on telephone sets after the Meridian 1 is rebooted.
- ***Block Meridian Mail*** This utility allows you to specify whether access to Meridian Mail should be blocked in the case of a serious disk failure.
- ***Session Trace*** This utility allows you to obtain detailed information about the activity in a user's mailbox and the state of the message waiting indicator (MWI).
- ***Audit all volumes*** This utility allows you to free up data blocks on all volumes in the system.

- ***Rebalance directory*** This utility rebalances the access structure for the organization directory in order to speed up searches and updates to its entries. This tool is intended mainly for Hospitality systems to assist in the initial setup of the system.
- ***COS conversion*** This utility converts the class of service (COS) for several users from Personal COS to a matching COS.
- ***Display system record*** This utility identifies the installed features, number of recording (storage) hours, and disk sizes on your system, among other items. This information is required when filling out a Site Profile form.
- ***Universal link monitor*** This utility allows viewing data of one link at a time. Separate instances of the message analyzer can be used to monitor more than one link. All links except AML are shown at the TOOLS level.
- ***Other*** This menu item displays the second TOOLS menu which consists of other system/feature-dependent utilities.

The following utilities are accessible when you select “Other” from the TOOLS menu. They are system/feature dependent and will not be displayed if the necessary feature is not installed.

- ***Change local site ID*** This utility is available only if Meridian Networking and Network Message Services are installed. It allows you to change the local site ID.
- ***Configure GACs*** This utility is available only if Hospitality is installed. It allows you to install the Guest Administration Console program on a terminal (or delete it from one).
- ***Check out all rooms*** This utility is available only if Hospitality is installed. It allows you to check out all hotel rooms at one time.
- ***Transfer voice prompts*** This utility is available only if Meridian ACCESS is installed. It allows you to transfer voice prompt files between Meridian Mail systems.
- ***ACCESS diagnostics*** This utility is available only if Meridian ACCESS is installed. It allows you to diagnose and monitor system activity related to Meridian ACCESS.

- **Configure MATs** This utility is available only if the Multiple Administration Terminals feature is installed. It allows you to install the Multiple Administration Terminal program on a terminal (or delete it from a terminal that is currently equipped with it).
- **Add/Delete many users** This utility is available only on Card Option systems. It allows you to add or delete a block of mailboxes at one time.
- **RN Administration** This utility is available only if Outcalling is installed. It allows you to change the parameters that affect the interaction between Meridian Mail and the paging company or remote phone during remote notification (RN).
- **Console port** This utility is available on all systems except Card Option and MSM. It allows you to change the default console port speed of the MMP40 card to either 2400 bps or 9600 bps.
- **Synchronize disks** This utility is available on Message Services Module (MSM) systems and is used to synchronize shadowed disks in circumstances where the Disk Maintenance option on the System Status and Maintenance menu proves to be inadequate. For example, if you are trying to transfer valid data from a disk (which currently has a “No Access” status) to its associated disk (which is set to “Read/Write”), the normal Disk Maintenance option may be unable to completely synchronize the disks. In this case, the Synchronize disks utility could be used.
- **Clone Disk** This utility creates a copy of your system and stores the copy on a backup set of disks. It is available on all platforms except MSM and Option 11.

ATTENTION

After using any of the following tools, you must reboot the system for the changes to take effect:

- Modify hardware
- Set silence compression
- Control volume
- Block Meridian Mail
- Configure GACs
- Configure MATs

RSC menu

The RSC menu provides access to the following utilities:

- ***Change password*** allows you to change the RSC-level password and the system administration password.
- ***ad_util*** allows you to manipulate administration data.
- ***burp*** allows you to backup and restore the system.
- ***om_util*** allows you to view the Operational Measurements file.
- ***se_util*** is an interface to the SEER file on the SEER server.
- ***rsm_util*** is a diagnostic tool that tests the RS-232 Service Module (RSM).
- ***scsi_util*** provides diagnostic tools for SCSI disk and tape drives.
- ***cptd_util*** provides you with the ability to configure Meridian Mail to recognize the call progress tones (dial tone, ringback, busy, etc.) in the country or location in which Meridian Mail is installed.
- ***vx_pkg*** enables you to determine the languages that are stored under the language cabinets, which prompt file was copied from the tape, and the version of the prompt files.
- ***Online DR reload*** allows you to rebuild a directory that requires rebuilding due to file corruption or file format changes.
- ***ocs_util*** provides you with a real-time view of the Outcalling Server's actions.
- ***Enable features*** supports the online enable of Message Services Module (MSM) features using keycodes.
- ***Change serial number*** allows sites (except those with Card Option systems) to change their serial number to match the serial number of their switches.
- ***Online storage expansion*** provides the capability to MSM customers to increase their storage capacity without system down time.

NTP references

For references to the *System Administration Guide*, the *Installation and Maintenance Guide*, and the *Networking Installation and Administration Guide*, refer to the lists below to find the version of the Northern Telecom Publication or NTP (as identified by the NTP number) that applies to your system:

Meridian 1 systems

- *System Administration Guide* for a single-customer system (NTP 555-7001-301)
- *System Administration Guide* for a multi-customer system (NTP 555-7001-302)
- *Customer Administration Guide* for a multi-customer system (NTP 555-7001-303)
- *Installation and Maintenance Guide* for a Modular Option EC system (NTP 555-7061-250)
- *Installation and Maintenance Guide* for a Modular Option system (NTP 555-7041-250)
- *Meridian Networking Installation and Administration Guide* (NTP 555-700-244)
- *Virtual Node AMIS Installation and Administration Guide* (NTP 555-7001-245)
- *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246)

DMS or SL-100 systems

- *System Administration Guide* for a single-customer system (NTP 555-7001-307)
- *System Administration Guide* for a multi-customer system NTP 555-7001-308
- *Customer Administration Guide* for a multi-customer system NTP 555-7001-309
- *Installation and Maintenance Guide* for a Modular Option GP system NTP 555-7051-250

Chapter 2: Using the TOOLS and RSC menus

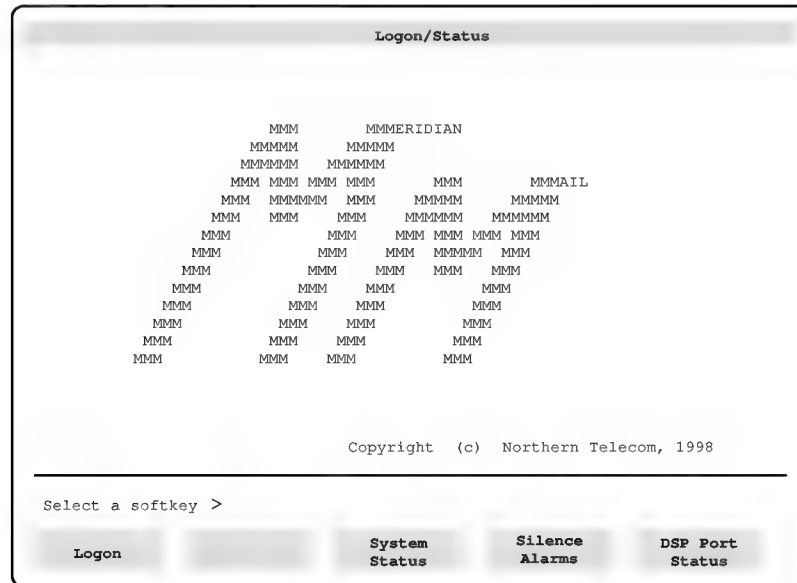
Logging on

The Logon screen (Figure 2-1) appears when the administrative console is idle. When the system is installed, the default administration password is “adminpwd,” and the password used to access the TOOLS menu is “tools.” To ensure system security, change the administrator password as soon as possible.

An unsuccessful logon attempt is automatically recorded in the system log file. As a security precaution, the system forces a ten-minute delay after a third unsuccessful attempt to log on, before a further logon attempt will be accepted.

To log on to the system and gain access to the tools, use Procedure 2-1, described on page 2-2.

Figure 2-1
The Logon screen



Note 1: If your system is an MSM, the blank softkey actually becomes the [T1 Status] softkey.

Note 2: On the Logon screen of a MAT, only the [Logon] softkey is displayed.

Procedure 2-1
Logging on

Starting point: Logon screen

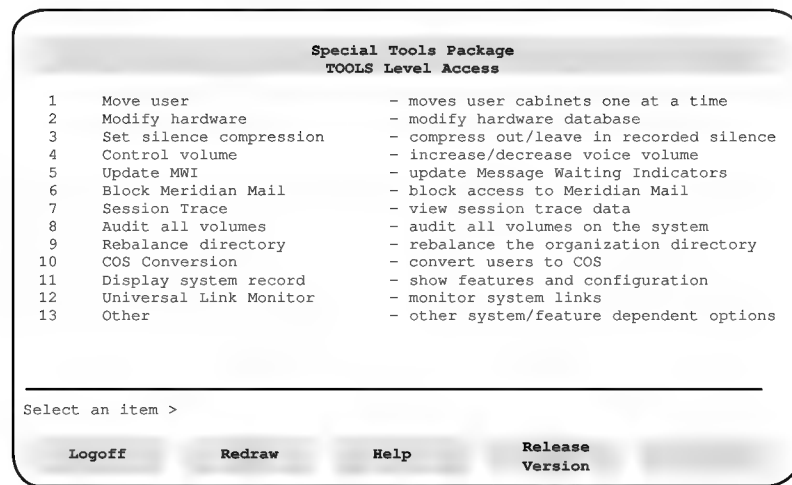
- 1 Press [Logon]. Enter the tools password to access the TOOLS Level menu or the RSC password to access the RSC Level menu, and press <Return>.
You are prompted to enter the administrator password.
- 2 Enter the administrator password and press <Return>.
The TOOLS menu or the RSC menu appears. See the section "The TOOLS menu" or the "RSC menu" for details on how to use the TOOLS or RSC menu.

If you enter an invalid password, an error message appears; try logging on again.

The TOOLS menu

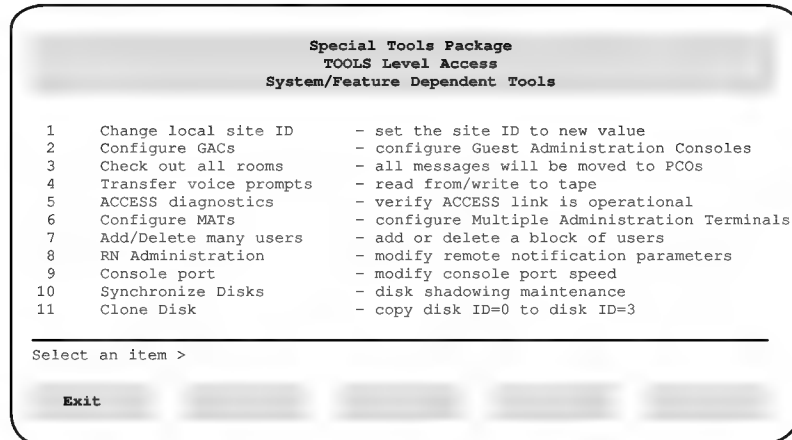
The TOOLS menu (Figure 2-2) appears after a successful logon using the TOOLS password. The menu allows you to select the tool you want. Never leave the administrative console unattended while you are logged on.

Figure 2-2
The TOOLS menu



When you choose the “Other” option from this menu, the menu shown in Figure 2-3 is displayed. The items that appear on this menu depend on the features installed on your system. Figure 2-3 shows all possible feature-dependent tools. Your system will most likely have only a few of them, and the menu item numbers may, therefore, be different on your system.

Figure 2-3
Feature-dependent tools



Procedure 2-2
Navigating the TOOLS menu

Starting point: The TOOLS level menu

- 1 Choose an item by entering its number and pressing <Return>. After a few moments, the first screen for the tool you have selected appears.

The softkeys, if selected, perform the following actions:

- | | |
|-------------------|---|
| [Logoff] | returns you to the Logon screen |
| [Redraw] | refreshes the menu screen |
| [Help] | presents general information |
| [Release Version] | provides a brief summary of any pertinent release information; if the screen is simply redrawn, then there is no release information available. |

Note: On the Feature-Dependent Tools menu, [Exit] returns you to the main TOOLS menu.

For other menu items, consult the appropriate chapter for details (see the table of contents).

- 2 When you have finished using the tool, terminate the program in the manner described in the chapter for that tool.

Note: You must terminate one tool before starting another.

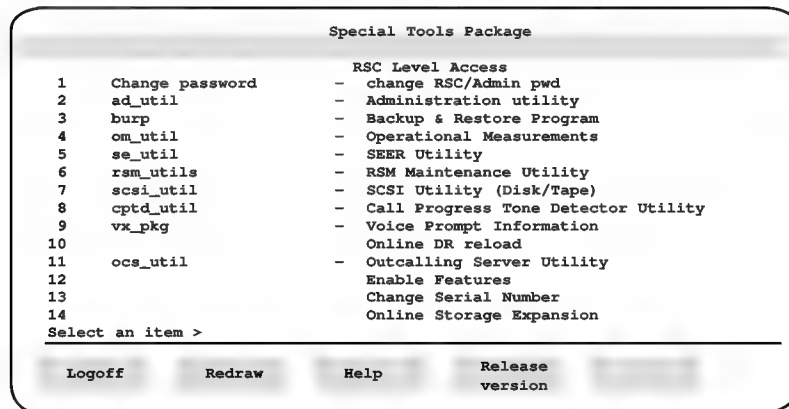
- 3 To log off, press [Logoff].
The Logon screen is redisplayed.

The RSC menu

See the section “Logging on” earlier in this chapter for a description of how to log on to the RSC menu.

Figure 2-4 shows additional utilities that are available at the RSC level.

Figure 2-4
The RSC menu



Procedure 2-3 Running RSC-level utilities

Starting point The RSC Level menu.

- 1 Choose an item by entering its number and pressing <Return>.

The softkeys, if selected, perform the following actions:

- | | |
|-------------------|--|
| [Logoff] | returns you to the Logon screen |
| [Redraw] | refreshes the menu screen |
| [Help] | presents general information |
| [Release Version] | provides a brief summary of any pertinent release information; if the screen is simply redrawn then there is no release information available. |

Note: When you select scsi_util, you are prompted for the node number.

After a few moments, the menu is redrawn and the program you selected starts executing in another virtual window (not visible from the menu window).

- 2 Press <CTRL><W> to see a list of virtual windows available.
- 3 Use the arrow keys to position the cursor beside the utility's name and type **s** to select that window.
- 4 When you have finished using the utility, terminate the program by typing **quit** and pressing the <Return> key.
Note: You must terminate one application before starting another.
- 5 Press <CTRL><W> to return to the list of virtual windows.
- 6 Type **r** beside the name of the utility to remove that window.
- 7 Type **s** beside the MMI window to return to the RSC menu; then repeat step 1 to carry out additional administrative tasks. Alternatively, you can select another utility from the remaining list, as described in step 3, instead of returning to the RSC menu.
- 8 To log off, use the [Logoff] softkey.
The Logon screen is redisplayed.

Changing the Password

This option, unlike the other RSC utilities, does not execute a virtual window, and consists only of a few prompts. It will therefore be discussed here.

The "Change password" item in the RSC menu allows you to change both the administration password and the RSC-level password.

Procedure 2-4 Changing the password

Starting point: The RSC menu, "Change password" selected.

You are prompted to select the password level you want to change.

- 1 Use the up or down arrow keys to select either ADMIN or RSC.
- 2 Enter the existing password for the selected level.
- 3 Enter the password.
- 4 Re-enter the new password for verification.

If you re-entered the password correctly (i.e., there was a perfect match between the passwords entered in steps 3 and 4), you will be informed that the password has been changed.

2-8 Using the TOOLS and RSC menus

If you re-entered the password incorrectly the second time, you will be informed that the two new passwords do not match and that the password has not been changed. You will have to repeat this procedure from step 1 once you have terminated the utility (see step 5).

- 5 Press <Return> to continue.

The RSC menu is redrawn.

Chapter 3: Move user

The Move user tool moves user cabinets, profiles, and voice messages from one user volume to another. This operation is performed one user at a time.

**CAUTION**
Risk of data loss

Check individual user storage limits and violations before users are moved.

If the volume from which you are moving users (the source volume) is more than 95 percent full, the Move user tool will inform you of this fact and will not move the user. This is because the source volume needs a certain amount of disk space in order to perform the “move user” task. If you get this warning message, run the Audit all volumes tool. If the source volume is still more than 95 percent full after the audit, then some files must be deleted from the source volume. When the source volume is less than 95 percent full, try running the Move user tool again.

The process of moving users uses up disk space on the source volume. Therefore, even if the source volume is less than 95 percent full when you start moving users, the disk may become more than 95 percent full while you are moving users. If this happens, the tool will not let you continue. Run Audit all volumes or delete files on the source volume to free up the disk space that you need to continue.

3-2 Move user

After you have moved the users, run Audit all volumes to reclaim the disk space on the volume from which you moved the users; or wait for the automatic overnight audit to reclaim the freed up disk space.

Note 1: This tool is useful only on systems with more than one user volume.

Note 2: If you do not have the multi-customer feature, you are still prompted for the Customer Number. In this case, simply enter 1.

Figure 3-1
Move user screen

```
This utility will move a user's cabinet and its contents from the user's
current volume to a different user volume.

Before moving a user, make sure there is room on the destination volume.

SYNTAX: MOVEUSER <Customer Number> <Mailbox> <Destination User Volume ID>

EXAMPLE:  John MacMillan's cabinet is on volume 203. His mailbox is 1234.
           His location code is 6338. The Destination User Volume ID is 202.
           He belongs to customer 2.
Enter:    MOVEUSER 2 63381234 202

To EXIT this utility, press RETURN without entering any data.

> MOVEUSER
```

Procedure 3-1
Moving users from one volume to another

Starting point: The TOOLS level menu

- 1** Select 1, Move user, and press <Return>.

The command line at the bottom of the screen displays the command MOVEUSER, and the cursor is positioned immediately after the command. You do not have to enter "moveuser" yourself.

- 2** For each user to be moved, enter the following information:

- user's customer number and mailbox number
- the destination user volume ID

See Figure 3-1.

- 3** Press <Return>.

The user's cabinet and profile will be created under the "users" directory on the specified volume. This directory must already exist. It will not automatically be created.

If the move is successful, the following prompts appear:

Moving Mailbox <mailbox ID> of Customer <customer number> to volume <volume Id>

Mailbox <mailbox ID> of Customer <customer number>
moved to volume <volume Id>

The Help command provides information on the move user command.

- 4** Exit the Move user utility by pressing <Return> without entering any data.

3-4 Move user

Chapter 4: Modify hardware

The Modify hardware tool allows you to modify the contents of the hardware database in your Meridian Mail system. The hardware database is a system utility which maintains a current listing and description of all nodes, cards, and ports in your system.

Note: For any changes made with this tool to take effect, you must reboot the system after you have made the changes. Exceptions are dataport speed changes for MAT, GAC, AdminPlus, MMLink, and MS Link.



CAUTION

Risk of system audit failure

You should not leave the administrative console running overnight or important system audits may fail due to lack of available memory.

Hardware configurations available

The following screen examples are taken from an EC system and an MSM system. The basic setup and type of information shown in these screens is the same on other hardware platforms. On these other systems, the card types and system capacities will be different, as will some of the data ports. For example, on a Modular Option GP system, the default link data port will be an SMDI data port, not an AML data port.

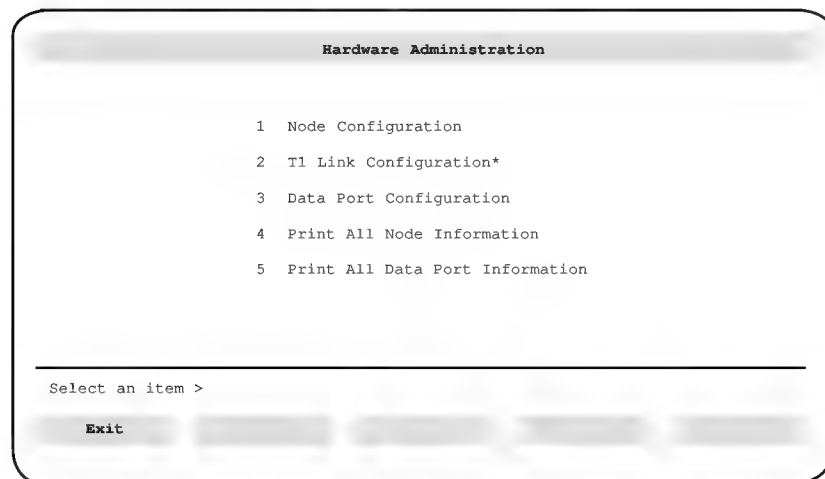
A fully upgraded 5-node EC system can have up to 96 ports. A fully upgraded 5-node Modular Option, or Modular Option GP system can have up to 64 ports. A fully upgraded 10-node MSM system can have up to 192 channels.

Note: The figures in this section do not necessarily represent the hardware configurations on your system. They are illustrations only.

The Hardware Administration menu

The Hardware Administration menu (Figure 4-1) provides several functions.

Figure 4-1
Hardware Administration menu



Note: *The T1 Link Configuration option appears only on MSM systems.

Procedure 4-1
Navigating the Hardware Administration menu

Starting point: The TOOLS level menu

- 1 Select <2>, Modify hardware, and press <Return>.
The Hardware Administration menu appears (Figure 4-1).
- 2 Choose an item by entering its number and pressing <Return>.

The menu corresponding to your selection appears. See the following sections for details:

- <1> "Node configuration"
- <2> "T1 link configuration" *
- <3> "Data port configuration"
- <4> "Print all node information"
- <5> "Print all data port information"

Note: *The "T1 Link Configuration" option appears only on MSM systems.

- 3 Press [Exit] to return to the TOOLS menu.

Node configuration

The Node Configuration screen is a summary listing of the cards found on all nodes in your system. Figures 4-2 and 4-3 show Node Configuration screens for an EC system and an MSM system respectively.

Figure 4-2
Node Configuration screen for a 96-port EC system

Hardware Administration								
Node Configuration								
Node	Card_1	Card_2	Card_3	Card_4	Card_5	Card_6	Card_7	Card_8
1	Empty	Empty	Empty	Empty	Empty	UTIL	MMP40	Empty
2	MMP40	Empty	VP8	VP8	VP8	Empty	Empty	Empty
3	MMP40	Empty	VP8	VP8	VP8	Empty	Empty	Empty
4	MMP40	Util	VP8	VP8	VP8	Empty	Empty	Empty
5	MMP40	Empty	VP8	VP8	VP8	Empty	Empty	Empty

Move the cursor to the node number and press the space bar to select.

Exit Modify

Note: A Card Option system may have a Card 9.

The following abbreviations identify the cards:

- **MMP40** This CPU card includes a 24 MHz 68040 processor, 16 Mbytes of memory, a SCSI interface processor, and up to two RS-232 serial ports.
- **SBC** This CPU card includes a 12 MHz 68010 processor. For Release 10.0, 68K cards are used for Card Option or MSM systems only.
- **RSM** This indicates an RS-232 service module.
- **Bus** This indicates a high-speed bus (also called HABC for High Availability Bus Controller).
- **MSP** This abbreviation stands for a multipurpose signal processor.
- **NVP** This abbreviation stands for a network voice processor (16K).
- **NVP32** This is a 32K network voice processor.

The following cards are available on a Modular Option EC system:

- **MMP40** This card is used on all Classic and Modular Option EC Meridian Mail systems. See page 4-4 for a description.
- **UTIL** This utility card contains a high-speed bus. It also includes four auxiliary RS-232 ports (1- to 4-node systems require one of these cards; 5-node systems with 60 or more ports require two of these cards).
- **VP4/VP8 cards** These cards are voice processor cards that provide four and eight ports respectively.

Figure 4-3
Node Configuration screen for an MSM system

Node	Card_1	Card_2	Card_3
1	Empty	SBC	Bus
2	Bus	Empty	SBC
3	VP12	VP12	SBC
4	VP12	VP12	SBC
13	T1	Empty	SBC
14	SBC	Empty	T1

Move the cursor to the node number and press the space bar to select.

Exit **Modify**

The following information is displayed on this screen:

- **Node** This is the node number.
- **Card** These are the types of cards found on the specified node. The following abbreviations identify the following cards:
 - **SBC** single board computer (68K CPU card)
 - **Bus** high-speed bus
 - **VP12** 12-channel voice processor

— T1 T1 link

Procedure 4-2
Modifying node configurations

Starting point: The TOOLS level Hardware Administration menu

- 1 Select <1>, Node Configuration, and press <Return>.
The Node Configuration screen is displayed (Figure 4-2).
- 2 Move the cursor to the node you want to modify and press the <Space Bar>.
Your selection is highlighted.
- 3 Choose step 3a to modify the configuration information of the node or 3b to return to the Hardware Administration menu.
 - a. Press [Modify]
The Modify Node screen appears; see the next section, "Modify node."
 - b. Press [Exit].
The Hardware Administration menu is displayed.

Modify node

The Modify Node screen displays the cards and ports (and their attributes) which are installed on the node you selected in the Node Configuration screen. Figure 4-4 shows a Modify (System) Node screen for an EC system. Figure 4-5 shows a Modify (Voice) Node screen for an EC system. Figure 4-6 shows a Modify Node screen for an MSM system.

Figure 4-4
Modify (System) Node screen for 96-port EC systems

Hardware Administration

Modify Node 1 (C=Card D=DSP P=Port)

C-D-P	Card_Type	Port_Type	Attributes
1	Empty		
2	Empty		
3	Empty		
4	Empty		
5	Empty		
6	UTIL		J4: 12 J5: 13
6 1		Data:	[Terminal] Printer NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
6 2		Data:	Terminal [Printer] NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
6 3		Data:	Terminal [Printer] NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
6 4		Data:	Terminal [Printer] NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
7	MMP40		
7 1		Data:	[Terminal] Printer NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
7 2		Data:	Terminal Printer NWModem MMLink [AML/CSL] SMDI PMS AdminPlus MSLink Modem

Save

Cancel

MORE BELOW

Note: If the node you are viewing is a system node, you may have MMP40, VP4, VP8, or UTIL cards installed. A voice node may also have these cards installed.

4-8 Modify hardware

Figure 4-5
Modify (Voice) Node screen for 96-port EC systems

Hardware Administration

Modify Node 1 (C=Card D=DSP P=Port)

C-D-P	Card_Type	Port_Type	Attributes	
1	MMP40	Data:	[Terminal] Printer NWModem MMLink AML/CSL SMDI FMS	
1 1			AdminPlus MSLink Modem	
1 2		Data:	Terminal [Printer] NWModem MMLink AML/CSL SMDI FMS	
			AdminPlus MSLink Modem	
2	Empty			
3	Empty			
4	VP8	Voice:	TN: Double 12 -0-2 -0 AgtPosID: 9999	
4-1-1			TN: Double 12 -0-2 -1 AgtPosID: 9999	
4			TN: Double 12 -0-2 -1 AgtPosID: 9999	
4-2-1			TN: Double 12 -0-2 -2 AgtPosID: 9999	

MORE BELOW

SaveCancel

Hardware Administration

MORE ABOVE

Modify Node 1 (C=Card D=DSP P=Port)

C-D-P	Card_Type	Port_Type	Attributes
4		Voice:	TN: Double 12 -0-2 -3 AgtPosID: 9999
4-3-1		Voice:	TN: Double 12 -0-2 -4 AgtPosID: 9999
4-3-2		Voice:	TN: Double 12 -0-2 -5 AgtPosID: 9999
4-4-1		Voice:	TN: Double 12 -0-2 -6 AgtPosID: 9999
4-4-2		Voice:	TN: Double 12 -0-2 -7 AgtPosID: 9999
5	VP8	Voice:	TN: Double 12 -0-3 -0 AgtPosID: 9999
5-1-1			TN: Double 12 -0-3 -1 AgtPosID: 9999
5-1-2			TN: Double 12 -0-3 -1 AgtPosID: 9999
5-2-1			TN: Double 12 -0-3 -2 AgtPosID: 9999
5-2-2			TN: Double 12 -0-3 -3 AgtPosID: 9999
5-3-1			TN: Double 12 -0-3 -4 AgtPosID: 9999
5-3-2			TN: Double 12 -0-3 -5 AgtPosID: 9999
5-4-1			TN: Double 12 -0-3 -6 AgtPosID: 9999

MORE BELOW

SaveCancel

Figure 4-6
Modify Node screen for an MSM system

Hardware Administration

Modify Node 1 (C=Card D=DSP P=Port)

C-D-P	Card_Type	Port_Type	Attributes
1	Empty		
2	SBC		
2 1		Data:	[Terminal] Printer NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
2 2		Data:	Terminal Printer NWModem MMLINK AML/CSL SMDI PMS AdminPlus MSLink [Modem]
2 3		Data:	[Terminal] Printer NWModem MMLINK AML/CSL SMDI PMS AdminPlus MSLink Modem
2 4		Data:	Terminal [Printer] NWModem MMLink AML/CSL SMDI PMS AdminPlus MSLink Modem
3	Bus		

MORE BELOW

SaveCancel

Hardware Administration

Modify Node 14 (C=Card D=DSP P=Port)

MORE ABOVE

C-D-P	Card_Type	Port_Type	Attributes
1	SBC		
1 1		Data	Terminal Printer NWModem MMLink AML/CSL [SMDI] PMS AdminPlus MSLink Modem
1 2		Data	Terminal Printer NWModem MMLink AML/CSL [SMDI] PMS AdminPlus MSLink Modem
1 3		Data	Terminal Printer NWModem MMLink AML/CSL [SMDI] PMS AdminPlus MSLink Modem
1 4		Data	Terminal Printer NWModem MMLink AML/CSL [SMDI] PMS AdminPlus MSLink Modem
2	Empty		

MORE BELOW

SaveCancel

The screen displays the following read-only information about each card on the node:

- ***C-D-P (Location)*** This is the physical location of the port in the Meridian Mail system, where C is the Card, D is DSP Port, and P is the port number.
 - ***Card Type*** The function of the card appears here; see “Node configuration” for a description of the abbreviations used in this field.
 - ***Port Type*** This is the type of port. “Data” indicates a serial data communications port. “Device” indicates a mass storage device or tape drive. “Voice” indicates a voice processor port. “Multi” indicates a multimedia port.
 - ***J4 (UTIL card only)*** This indicates the Meridian 1 network loop number connected to J4 on the utility card. Not available on an MSM system.
 - ***J5 (UTIL card only)*** This indicates the Meridian 1 network loop number connected to J5 on the utility card. Not available on an MSM system.
 - ***Attributes (for ports with type = Data)***
 - ***Terminal*** This indicates a connection to an administration terminal or a personal computer.
 - ***Printer*** This is a printer serial connection.
 - ***NWModem*** This indicates a connection to a modem used for networking calls.
- Note:** Ports on the MMP40 and the SBC card do not support networking. The RSM card and UTIL card, however, do support networking.
- ***MMLink*** This indicates a Meridian ACCESS Link. This is the communications channel for Meridian ACCESS.
- Note:** For voice nodes, ports on an RSM or Util card do not support Meridian ACCESS or AdminPlus.
- ***AML/CSL (Meridian Link)*** This indicates a communications channel between Meridian Mail and a Meridian 1.

- **SMDI** Not applicable. (This is a communications channel between Meridian Mail and a DMS-100, DMS-10, SL-100, AT&T, or ROLM switch.)
- **PMS** This attribute is available for Hospitality systems. It is the serial link between Meridian Mail, the PMS system, and the Meridian 1 for PMS data.
- **AdminPlus** This stands for a connection to a PC equipped with Meridian Mail Reporter.
- **MSLink** This is the connection to a PC used for the Meridian Mail AutoAdmin feature.
- **Modem** This is a connection to a modem used for remote access.
- **Attributes (for ports with type = Device)**
 - **Disk** This stands for a mass storage subsystem (hard disk).
 - **Tape** This indicates a cartridge tape subsystem.
- **Attributes (for ports with type = Voice or Multi)**
 - **TN (Meridian 1)** This is the Terminal Number <Density + Address> where Density is either Single, Double, or Quadruple. (This is Octal on Card Option systems.) The Address consists of the set of numbers lll-ss-c-uu, where
 - lll = loop (0–255)
 - ss = shelf (0–3 for single-density, 0–1 for double, 0 for quadruple)
 - c = card (0–15)
 - uu = unit (0–3 for single density, 0–7 for double, 0–15 for quadruple)
 - **AgtPosId** This is the Agent Position ID for the voice port. It is equivalent to the Position ID for the virtual agent. The Position ID is an actual DN (although not directly callable). It is unique across the entire Meridian 1 customer and is associated with a particular (agent) telephone set. It is not necessary to fill in this field, but you may want to use this field to further label and track your ports. The default value is 9999.

T1 link configuration for the MSM

The T1 Link Configuration screen lists the T1 links in the MSM system.

Figure 4-7
T1 Link Configuration screen

Hardware Administration

T1 Link Configuration

T1 Link ID	Primary Connection (Node-Card-Span)	Secondary Connection (Node-Card-Span)	T1 Clock Reference Candidacy
A	13-1-1	14-1-1	Y
B	13-1-2	14-1-2	Y
C	13-1-3	14-1-2	
D	13-1-4	14-1-4	
E	15-1-1	16-1-1	
F	15-1-2	16-1-2	
G	15-1-3	16-1-3	
H	15-1-4	16-1-4	

Move the cursor to the item and press the space bar to select.

Note: The figures in this section do not necessarily represent actual hardware configurations. They are illustrations only.

The following information is displayed on this screen:

- **T1 Link ID** This is a unique identifier for the T1 link. Each link actually consists of two connections, a primary and secondary connection, to provide redundancy.
- **Primary Connection** This is the location (node-card-span) of the primary connection.
- **Secondary Connection** This is the location (node-card-span) of the secondary connection.

- **T1 Clock Reference Candidacy** This field shows whether the link has been configured as a candidate for clock referencing. Press [Modify T1 Link Setup] to nominate a link or to disqualify a current candidate. See the section “Modifying the T1 link setup” for more information about clock referencing.

Procedure 4-3
Modifying T1 Link configurations

Starting point: The Hardware Administration menu

- 1 Select <2>, T1 Link Configuration, and press <Return>.
The T1 Link Configuration screen appears (Figure 4-7).
- 2 Move the cursor to the link you want to modify and press <Space Bar>.
Your selection is highlighted.
- 3 To modify the T1 channel configuration information, choose step 3a. To modify the T1 link setup information, choose step 3b. To return to the Hardware Administration menu, choose step 3c.
 - a. Press [Modify T1 Chnl Configuration].
The Modify T1 Channel configuration screen appears; see the next section, “Modifying T1 channels”.
 - b. Press [Modify T1 Link Setup].
The T1 Link Setup screen appears; see the section “Modifying the T1 link setup”.
 - c. Press [Exit].
The Hardware Administration menu is redisplayed.

Modifying T1 channels

The Modify T1 Channel screen (Figure 4-8) displays the T1 Channel configuration for the link you have selected.

Figure 4-8
Modify T1 Channel screen

Channel Number	Routing Address	Login Code	Logout Code	Agent ID Code	Not-ready Deactivation Code	Link ID
1	63-25	*85	*84	2326060		2
2	63-26	*85	*84	2326060		2
3	63-27	*85	*84	2326060		2
4	63-28	*85	*84	2326060		2
5	63-29	*85	*84	2326060		2
6	63-30	*85	*84	2326060		2
7	63-31	*85	*84	2326060		2
8	63-32	*85	*84	2326060		2
9	63-33	*85	*84	2326060		2
10	63-34	*85	*84	2326060		2
11	63-35	*85	*84	2326060		2
12	63-36	*85	*84	2326060		2
13	63-37	*85	*84	2326060		2

Buttons: Save, Cancel, [Unlabeled], [Unlabeled], [Unlabeled]

Note: The figures in this section do not necessarily represent an actual hardware configuration. They are presented for illustration purposes only.

The following information is displayed on this screen:

- **Channel Number** This is the number of the T1 channel.
- **Routing Address** This is the location of the corresponding agent in the switch. This is the message desk number and is represented in the format xxx-yyyy, where xxx is the message desk number and yyyy is the terminal number.

- **Login Code** This is the channel access code for logging in to the UCD group. This field should be blank if the SMDI_AUTOLOG option has been configured as “Y” (yes) on the switch. When this field is left blank, Meridian Mail inserts a default login code.
If SMDI_AUTOLOG is configured as “N” on the switch, ensure that the code displayed here matches the code configured on the switch. See your administrator.
- **Logout Code** This is the channel access code for logging out of the UCD group. This field should be blank if the SMDI_AUTOLOG option has been configured as “Y” (yes) on the switch. When this field is left blank, Meridian Mail inserts a default login code.
If SMDI_AUTOLOG is configured as “N” on the switch, ensure that the code displayed here matches the code configured on the switch. See your administrator.
- **Agent ID Code** This ID must match the line number (SMDI_LINE_NO) of the UCD agent that is configured on the switch. On the SL-100, the LINE_NO can either be configured through **so** (servord) or through Table IBNFEAT by entering the SMDI option.
- **Not-ready Deactivation Code** This field is not applicable to UCD environments and should be left blank. It is used in ACD environments for assigning the channel to the ACD queue after the channel has logged in to the ACD group.
- **Link ID** The Link ID of the SMDI link associated with the T1 channel.

For more information about these options, see the *MSM Translations Guide* (NTP 557-7001-310).

Procedure 4-4 Modifying T1 Channel configurations

Starting point: The Hardware Administration menu

- 1 Select <2>, T1 Link Configuration, and press <Return>.
The T1 Link Configuration screen appears (Figure 4-7).
- 2 Move the cursor to the T1 link you want to view or modify and press <Space Bar>.
Your selection is highlighted.

- 3** Press [Modify T1 Chnl Configuration].
The Modify T1 Channel Configuration screen is displayed (see Figure 4-8).
- 4** Press the arrow keys to position the cursor where you want to make changes. Press the backspace or delete keys to make changes as required. Type in new information where required.
- 5** Choose step 5a to save the changes or step 5b to exit the Modify T1 Channel Configuration screen.
 - a. Press [Save] to save the changes.
The T1 Link Configuration screen reappears.
 - b. Press [Cancel] to undo the changes.
The T1 Link Configuration screen reappears.

Applying T1 channel modifications

When you have completed T1 channel modifications and the hardware database has been updated, you can apply the changes without rebooting by following Procedure 4-5.

The modifications will affect one or both pairs of T1 nodes depending on which channels were changed. Procedure 4-5 must be applied to one or both of the following:

- Node 13 and 14 for spans with link ID A-D
- Node 15 and 16 for spans with link ID E-H

Procedure 4-5
Disabling and reenabling T1 nodes

Starting point: The Main Menu

- 1 Select System Status and Maintenance.
- 2 Select T1 Link Status.
- 3 Switch all "InService" T1 links by pressing [Switch Links].
- 4 Press [Exit].
The System Status and Maintenance menu is displayed.
- 5 Select SMDI Link Status.
- 6 Switch all "InService" SMDI links by pressing [Switch Links].
- 7 Press [Exit].
The System Status and Maintenance menu is displayed.
- 8 Select Node Status.
- 9 Press [Disable Node].
You are prompted for the node number.
- 10 Enter the node number for the even T1 node and press <Return>.
The selected node will be disabled.
 - a. Wait three to five minutes before reenabling it.
 - b. When it has been successfully disabled, continue with the next step.
*If the disable is not successful, refer to *Trouble-locating and Alarm-clearing Procedures* (NTP 557-7001-503) for more information.*
- 11 Press [Enable Node].
You are prompted for the node number.
- 12 Enter the node number of the previously disabled node and press <Return>.
*The selected node will be enabled. When it has been successfully enabled, continue with the next step. If the enable is not successful, refer to *Trouble-locating and Alarm-clearing Procedures* (NTP 557-7001-503) for more information.*
- 13 Press [Exit].
The System Status and Maintenance menu is displayed.
- 14 Repeat steps 2 through 13 for the odd T1 node.

- 15 Press [Exit].

The Main Menu is displayed.

Modifying the T1 link setup

Note: In a private customer installation, the MSM typically does not use a clock. In this situation, you have to put the system in free run mode. When you put your system in free run mode, the channel banks terminating equipment must derive its timing reference from the MSM.

The modify T1 Link Setup screen (see Figure 4-9) is used to modify the T1 clock reference candidacy of a T1 link, the T1 Line Code format, or the T1 debounce time. You may nominate one or more links to serve as the clock reference for the MSM. An external device in the network (such as the PBX switch, for example) can serve as the reference provider.

The link that is used as the reference is defined in the T1 Link Status screen. If any problems occur on the link that is the current clock reference, or if certain maintenance procedures are being carried out on the link or the card, the system will automatically select one of the other nominated links as the new reference and generate a SEER to indicate that a link has been activated as the reference provider.

The following situations will cause the system to select another reference:

- A red alarm is detected.
- A yellow alarm is detected.
- There is a hardware fault.
- The T1 card on which the link resides is disabled.
- The T1FN is disabled.
- The switch T1 link command is issued.
- The T1 link that is the clock reference is disabled.

In order to nominate a T1 link for clock reference candidacy, or to modify the T1 Line Code format or the T1 debounce time, you must first take both the primary and secondary spans associated with the T1 link out of service. T1 links are enabled and disabled in the T1 Link Status screen.

Figure 4-9
Modify T1 Link Setup screen

Hardware Administration

T1 Link Setup for Link ID A

T1 Clock Reference Candidacy:	[No]	Yes
T1 Line Code Format:	B7	[B8ZS]
T1 Debounce Time:	130	

Select a softkey >

Save * Cancel

Note: *If you have not disabled the primary and secondary spans, only the [Exit] softkey is displayed and the screen is read-only.

The following fields are displayed on this screen:

- **T1 Clock Reference Candidacy** “Yes” indicates that the selected T1 link is nominated as a clock reference candidate. “No” indicates that the link has not been nominated.
- **T1 Line Code Format** This indicates the T1 Line Code format in the T1 link.
- **T1 Debounce Time** Enter a value between 0 and 512. This value is the amount of time the system will wait for a T1 span to be cleared of noise after a T1 signal is sent. The default is 130.

Procedure 4-6

Nominating/disqualifying a T1 link as a clock reference candidate

Starting point: The Main Menu

- 1 Select System Status and Maintenance.
- 2 Select T1 Link Status.
- 3 Press [Disable T1].
You are prompted for the T1 number of the link you want to disable.
- 4 Enter the number of the T1 link you want to disable followed by <Return>.
To disable another link, repeat steps 2 and 3.
- 5 Press [Exit].
The System Status and Maintenance menu is displayed.
- 6 Press [Exit].
The Main Menu is displayed.
- 7 Select Hardware Administration.
- 8 Select T1 Link Configuration.
- 9 Move the cursor to the T1 link you want to nominate/disqualify and press <Space Bar> to select it.
Your selection is highlighted.
- 10 Press [Modify T1 Link Setup].
The T1 Link Setup screen is displayed.
- 11 Select Yes to nominate a link or No to disqualify a current candidate.
- 12 If you want to change the T1 Line Code Format, select the format that you want for the T1 link.
- 13 If you want to change the T1 Debounce Time, replace the old time with the new time.
- 14 Press [Save].
The selected link is nominated/disqualified, the new T1 line code format is set (if you changed it), and the T1 Link Configuration screen is displayed.
- 15 Press [Exit] to return to the T1 Link Status screen in System Status and Maintenance, and reenable the link.
- 16 If necessary, activate one of the candidates as the clock reference using [Change T1 Clocking Mode] in the T1 Link Status screen.

Data port configuration

The Data Port Configuration screen (see Figure 4-10) summarizes the data ports on all nodes in your system. For Networking systems, the modem port settings can be modified. The AML/CSL port can neither be viewed nor modified. All other data ports can always be selected and their configuration modified.

Note: The abbreviations used in this screen are described in the section “Node configuration” earlier in this chapter.

This section shows the recommended data port uses, followed by a description of the Data Port Configuration screen, and how to modify data ports for the following device types:

- Terminal
- Printer
- MMLink (Meridian Mail Link)
- NWModem (Networking Modem)
- MSLink
- SMDI
- PMS
- AdminPlus

The recommended data port uses are listed in the tables that follow.

Table 4-1
Recommended data port uses for Card Option systems

Port	Allowable uses
DP1	Network Modem, GAC, Printer, ACCESS Link, AdminPlus, MS Link
DP2	Network Modem, GAC, Printer, ACCESS Link, AdminPlus, MS Link
DP3	PMSI to PMS System, Network Modem, Printer
DP4	PMSI to Meridian 1, Network Modem, Printer

Note 1: DP3 and DP4 have a bypass relay installed for the PMS links.

Note 2: The cumulative baud rate of all AdminPlus and ACCESS dataports cannot exceed 9600 bps.

Table 4-2
Recommended data port uses for Modular Option and Modular GP systems

Port	Allowable uses
Node 1 MMP40 port 1: DP1	System Console
Node 1 MMP40 port 2: DP2	AML, CSL, or SMDI
Node 1 RSM port 1: DP3	GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, AdminPlus, MS Link
Node 1 RSM port 2: DP4	GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, MS Link
Node 1 RSM port 3: DP5	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, MS Link
Node 1 RSM port 4: DP6	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, MS Link
—continued—	

Table 4-2 (continued)
Recommended data port uses for Modular Option and Modular GP systems

Port	Allowable uses
Node 2 MMP40 port 1: DP7	GAC, MAT, Printer, SMDI, ACCESS Link, MS Link
Node 2 MMP40 port 2: DP8	Maintenance
Node 2 RSM port 1: DP9	GAC, MAT, Network Modem, Printer, SMDI
Node 2 RSM port 2: DP10	GAC, MAT, Network Modem, Printer, SMDI
Node 2 RSM port 3: DP11	GAC, MAT, Network Modem, Printer, SMDI
Node 2 RSM port 4: DP12	GAC, MAT, Network Modem, Printer, SMDI
Node 3 MMP40 port 1: DP13	GAC, MAT, Printer, ACCESS Link, SMDI, MS Link
Node 3 MMP40 port 2: DP14	Maintenance
Node 3 RSM port 1: DP15	GAC, MAT, Network Modem, Printer, SMDI
Node 3 RSM port 2: DP16	GAC, MAT, Network Modem, Printer, SMDI
Node 3 RSM port 3: DP17	GAC, MAT, Network Modem, Printer, SMDI
Node 3 RSM port 4: DP18	GAC, MAT, Network Modem, Printer, SMDI
Node 4 MMP40 port 1: DP19	GAC, MAT, Printer, ACCESS Link, SMDI, MS Link
Node 4 MMP40 port 2: DP20	Maintenance
Node 4 RSM port 1: DP21	GAC, MAT, Network Modem, Printer, SMDI
Node 4 RSM port 2: DP22	GAC, MAT, Network Modem, Printer, SMDI
—continued—	

Table 4-2 (continued)
Recommended data port uses for Modular Option and Modular GP systems

Node 4 RSM port 3: DP23	GAC, MAT, Network Modem, Printer, SMDI
Node 4 RSM port 4: DP24	GAC, MAT, Network Modem, Printer, SMDI
Node 5 MMP40 port 1: DP25	GAC, MAT, Printer, ACCESS Link, SMDI, MS Link
Node 5 MMP40 port 2: DP26	Maintenance
Node 5 RSM port 1: DP27	GAC, MAT, Network Modem, Printer, SMDI
Node 5 RSM port 2: DP28	GAC, MAT, Network Modem, Printer, SMDI
Node 5 RSM port 3: DP29	GAC, MAT, Network Modem, Printer, SMDI
Node 5 RSM port 4: DP30	GAC, MAT, Network Modem, Printer, SMDI
—end—	

Note: The cumulative baud rate of all AdminPlus and ACCESS dataports cannot exceed 19 200 bps on node 1 and 38 400 bps on a voice node.

Table 4-3
Recommended data port uses for EC and EC-11 systems

Note: A maximum of two nodes comprises the EC-11 system.

Port	Allowable uses
Node 1 MMP40 port 1	System Console
Node 1 MMP40 port 2	AML/CSL
Node 1 Utility Card port 1 (modem on North American systems)	Remote Access
—continued—	

Table 4-3 (continued)
Recommended data port uses for EC and EC-11 systems

Port	Allowable uses
Node 1 Utility Card port 2	GAC, MAT, Network Modem, Printer, ACCESS Link, AdminPlus, MS Link
Node 1 Utility Card port 3	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, MS Link
Node 1 Utility Card port 4	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, MS Link
Node 2 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 2 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 2 MMP40 port 2	GAC, MAT, Printer, ACCESS Link, MS Link
Node 3 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 3 MMP40 port 2	GAC, MAT, Printer, ACCESS Link, MS Link
Node 4 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 4 MMP40 port 2	GAC, MAT, Printer, ACCESS Link, MS Link
Node 5 MMP40 port 1	GAC, MAT, Printer
Node 5 MMP40 port 2	GAC, MAT, Printer
Second Utility Card port 1	GAC, MAT, Printer
Second Utility Card port 2	GAC, MAT, Printer
Second Utility Card port 3	GAC, MAT, Printer
Second Utility Card port 4	GAC, MAT, Printer
-end-	

Note: The cumulative baud rate of all AdminPlus and ACCESS dataports cannot exceed 19 200 bps on node 1 and 38 400 bps on a voice node.

Table 4-4
Recommended data port uses — MSM systems (for networking)

Node	Port	Port type	Allowable uses
1 (MSP 1)	1	20 ma	Console (note 1)
1 (MSP 1)	2	Modem	Remote Access
1 (MSP 1)	3	20 ma	Maintenance printer
1 (MSP 1)	4	20 ma	MAT (note 2)
2 (MSP 2)	1	20 ma	Console (note 1)
2 (MSP 2)	2	Modem	Remote Access
2 (MSP 2)	3	20 ma	
2 (MSP 2)	4	20 ma	MAT (note 2)
3 (SPN 1)	1	RS-232-C	Network, AdminPlus
3 (SPN 1)	2	RS-232-C	Network, MAT (note 2)
3 (SPN 1)	3	RS-232-C	Network
3 (SPN 1)	4	RS-232-C	Network, MAT (note 2)
4 (SPN 2)	1	RS-232-C	Network
4 (SPN 2)	2	RS-232-C	Network
4 (SPN 2)	3	RS-232-C	Network
4 (SPN 2)	4	RS-232-C	Network, ACCESS, MS Link
5 (SPN 3)	1	RS-232-C	Network
5 (SPN 3)	2	RS-232-C	Network
5 (SPN 3)	3	RS-232-C	Network
5 (SPN 3)	4	RS-232-C	Network
6 (SPN 4)	1	RS-232-C	Network
6 (SPN 4)	2	RS-232-C	Network
6 (SPN 4)	3	RS-232-C	Network
6 (SPN 4)	4	RS-232-C	Network, ACCESS, MS Link
—continued—			

Table 4-4 (continued)
Recommended data port uses — MSM systems (for networking)

Node	Port	Port type	Allowable uses
8 (SPN 6)	1	RS-232-C	Network
7 (SPN 5)	1	RS-232-C	Network
7 (SPN 5)	2	RS-232-C	Network
7 (SPN 5)	3	RS-232-C	Network
7 (SPN 5)	4	RS-232-C	Network
8 (SPN 6)	2	RS-232-C	Network
8 (SPN 6)	3	RS-232-C	Network
8 (SPN 6)	4	RS-232-C	Network, ACCESS, MS Link
9 (SPN 7)	1	RS-232-C	Network
9 (SPN 7)	2	RS-232-C	Network
9 (SPN 7)	3	RS-232-C	Network
9 (SPN 7)	4	RS-232-C	Network
10 (SPN 8)	1	RS-232-C	Network
10 (SPN 8)	2	RS-232-C	Network
10 (SPN 8)	3	RS-232-C	Network
10 (SPN 8)	4	RS-232-C	Network, ACCESS, MS Link
13 (TIFN 1)	1	Modem	SMDI
13 (TIFN 1)	2	Modem	SMDI (note 3)
13 (TIFN 1)	3	Modem	SMDI (note 3)
13 (TIFN 1)	4	Modem	SMDI (note 3)
14 (TIFN 2)	1	Modem	SMDI or standby SMDI
14 (TIFN 2)	2	Modem	SMDI or standby SMDI (note 3)
14 (TIFN 2)	3	Modem	SMDI or standby SMDI (note 3)
14 (TIFN 2)	4	Modem	SMDI or standby SMDI (note 3)
—continued—			

Table 4-4 (continued)
Recommended data port uses — MSM systems (for networking)

Node	Port	Port type	Allowable uses
15 (TIFN 3)	1	Modem	SMDI
15 (TIFN 3)	2	Modem	SMDI (note 3)
15 (TIFN 3)	3	Modem	SMDI (note 3)
15 (TIFN 3)	4	Modem	SMDI (note 3)
16 (TIFN 4)	1	Modem	SMDI or standby SMDI
16 (TIFN 4)	2	Modem	SMDI or standby SMDI (note 3)
16 (TIFN 4)	3	Modem	SMDI or standby SMDI (note 3)
16 (TIFN 4)	4	Modem	SMDI or standby SMDI (note 3)
—end—			

Note 1: A relay on the I/O panel switches the terminal to MSP2 port 1 if MSP1 fails.

Note 2: Up to three MATs (Multiple Administration Terminals) may be assigned. In the case of local terminals, it is recommended that MSP1 data port 4 be assigned to the first MAT, MSP2 data port 4 be assigned to the second MAT, and SPN1 data port 4 be assigned to a third MAT. For remote user administration, MATs may instead be assigned to a modem data port on an SPN node. A MAT and ACCESS data port must not be assigned to the same node.

Note 3: If the Multi-SMDI feature is enabled, additional SMDI ports may be assigned. The maximum number of SMDI links that may be supported by the MSM will be determined by the number of ports provisioned and the number of SPN modem data ports not being used for other features. As an example, an MSM provisioned with 48 voice ports could support 6 SMDI links if no other feature required use of either SPN modem data port. MSMs provisioned with 48 ports will support up to four redundant SMDI ports (TIFN 1 and 2, ports 1 to 4) and two non-redundant SMDI ports (SPN 1 and 2, port 2).

The remainder of this section describes the Data Port Configuration screen and the Modify Data Port screens. Figure 4-10 shows a Node Configuration screen for an EC system, and Figure 4-11 shows a Node Configuration screen for an MSM system.

Figure 4-10
Data Port Configuration screen—96-port EC system

Hardware Administration

Data Port Configuration

Port Location	Description	Device Type	Status
1-6-1	Node 1 UTIL Port 1	Terminal	InService
1-6-2	Node 1 UTIL Port 2	MMLink	InService
1-6-3	Node 1 UTIL Port 3	PMS	InService
1-6-4	Node 1 UTIL Port 4	PMS	InService
1-7-1	Node 1 MMP40 Port 1	Terminal	InService
1-7-2	Node 1 MMP40 Port 2	AML/CSL	InService
2-1-1	Node 2 MMP40 Port 1	Terminal	InService
2-1-2	Node 2 MMP40 Port 2	NWModem	InService

Move the cursor to the data port location and press space bar to select.

Exit **Modify**

Figure 4-11
Data Port Configuration screen for an MSM system

Hardware Administration

Data Port Configuration

Port Location	Description	Device Type	Status
1-3-1	Node 1 SBC Port 1	Terminal	InService
1-3-2	Node 1 SBC Port 2	Modem	InService
1-3-3	Node 1 SBC Port 3	Terminal	InService
1-3-4	Node 1 SBC Port 4	Terminal	OutOfService
2-3-1	Node 2 SBC Port 1	Terminal	InService
2-3-2	Node 2 SBC Port 2	Modem	OutOfService
2-3-3	Node 2 SBC Port 3	Terminal	InService
2-3-4	Node 2 SBC Port 4	Terminal	InService
11-1-1	Node 12 SBC Port 1	Terminal	InService
11-1-2	Node 13 SBC Port 2	Terminal	InService
12-1-1	Node 12 SBC Port 1	Terminal	InService
12-1-2	Node 13 SBC Port 2	Terminal	InService

Move the cursor to the data port location and press space bar to select.

The Data Port Configuration screen displays the following information:

- **Port Location** This is the port's physical location (node-card-port) in the system.
- **Description** This is the node and card type on which the port resides.
- **Device Type** This is the function of the port. MMP40 or SBC port 1 must be set to Terminal (SBC is available on Card Option systems). MMP40 port 2 must be SMDI or AML/CSL.
- **Status** This is the current operational state of the port. It can be one of the following:
 - **InService** This indicates that the data port is operational.
 - **OutOfService** This indicates that the data port is no longer operational because the node has been disabled.

- **Faulty** This means that the system has detected an error in the data port.
- **Unequipped** This means that the data port is not defined in the hardware database.

Procedure 4-7
Modifying data ports

Starting point: The TOOLS level Hardware Administration menu

- 1 Select [Data Port Configuration], and press <Return>.
The Data Port Configuration screen is displayed (see Figure 4-10).
- 2 Move the cursor to the port to be modified and press the <Space Bar>.
Your selection is highlighted.
- 3 Choose step 3a to modify the configuration information, or 3b to return to the Hardware Administration menu.
 - a. Press [Modify].
The Modify Data Port screen appears. See the next section for details.
 - b. Press [Exit].
The Hardware Administration menu appears.

Modify terminal data ports

The Modify Data Port screen for terminals (Figure 4-12) allows you to modify information on the terminal connected to the selected port.

Figure 4-12
Modify Data Port screen for Terminals

Hardware Administration

Modify Data Port

Data Port Location: 1-1-1

Device Type: Terminal

Device Name: CONSOLE

Baud Rate: Autobaud

Parity: Even Odd [None]

Number of Windows: 4

Window Width: 80

Window Height: 24

Select a softkey >

Save Cancel

The following fields are displayed in the screen:

- **Data Port Location** This is the physical location of the port (node-card-span). The MMI terminal must be located on node 1, MMP40, or SBC port 1 (for Card Option only).
- **Device Type** This field should be set to Terminal.
- **Device Name** This is the name that identifies the terminal. If the name starts with UAT, the terminal is configured as a multiple administration terminal. If the name starts with GAC, the terminal is configured as a Guest Administration Console.

- **Baud Rate** Set this field to either 2400 or 9600 for all system types except Card Option and MSM. For Card Option systems, 2400 is recommended, but it must match the baud rate set on the Option 11 switch. For MSM systems, this should be set to 2400. On the MMI terminal or MMP40 systems, “Autobaud” is displayed in this field. This indicates that the Console Port utility should be used to obtain and modify the baud rate for the data port. Note that a reboot of the system is not required for the changes to take effect.
- **Parity** This must be set to None.
- **Number of Windows** This specifies the number of windows that can be used simultaneously. Set to “4” for the System Administration terminal and “1” for the multiple administration terminal or GAC.
- **Window Width** This field sets the window width.
- **Window Height** This field sets the window height.

Procedure 4-8

Setting parameters for the terminal data port

Starting point: The TOOLS level Modify Data Port screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Set the parameters as required.
- 3 When the parameters are set, proceed to step 3a or 3b:
 - a. Press [Save].

The changes are saved and the Data Port Configuration screen appears.
 - b. Press [Cancel].

Any changes you have made are discarded. The Data Port Configuration screen appears.
- 4 Adjust the baud rate to the required speed in the terminal setup of the connected terminal.

Modify printer data ports

The Modify Data Port screen for printers (Figure 4-13) allows you to modify the baud rate and parity of the terminal connected to the selected port.

Note: A printer can be attached directly to the administration terminal. It does not require a separate data port. The printer must be defined in General Administration, General Options (see the *System Administration Guide*).

Figure 4-13
Modify Data Port screen for printers

The screenshot shows a window titled "Hardware Administration" with a sub-header "Modify Data Port". Below this, there are several fields and their values:

Data Port Location:	1-3-4
Device Type:	Printer
Device Name:	PRT0134
Baud Rate:	1200 2400 4800 [9600]
Parity:	Even Odd [None]

At the bottom of the window, there are two buttons: "Save" and "Cancel".

The following fields are displayed in the screen:

- **Data Port Location** This is the physical location of the port (node-card-span).
- **Device Type** This is the function of the port. Set to Printer.
- **Device Name** The name of the device goes here.
- **Baud Rate** Set this field to 1200, 2400, 4800, or 9600 depending on the current setup of the printer connected to the port. The selected baud rate is highlighted.

- **Parity** Set the parity to Even, Odd, or None depending on the current setup of the printer connected to the port.

Procedure 4-9
Modifying printer data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Set the parameters as required.
- 3 Choose step 3a to save the changes, or 3b to cancel.
 - a. Press [Save].
Changes are saved. The Data Port Configuration screen appears.
 - b. Press [Cancel].
Any changes you have made are discarded. The Data Port Configuration screen appears.

Modify MMLink data ports

The Modify Data Port screen for the Meridian ACCESS Link (see Figure 4-14) allows you to modify link characteristics.

Figure 4-14
Modify Data Port screen for the MMLink

Hardware Administration				
Modify Data Port				
Data Port Location:	1-3-2			
Device Type:	MMLink			
Device Name:	ACC132			
Baud Rate:	4800	[9600]	19200	38400
Parity:	Even	Odd	[None]	
Save Cancel				

Note: The 19 200 and 38 400 baud rates are displayed when the MMLink Data Port is located on an MMP40 card. These baud rates are not displayed for the MSM system.

The following fields are displayed in the screen:

- **Data Port Location** This is the location of the port in the system (node-card-span). (On node 1, this must be an RSM/Util port.)
- **Device Type** This is the function of the port. Set this field to "MMLink."
- **Device Name** This is the name of the device.
- **Baud Rate** This field can be set to 4800, 9600, 19 200 (MMP40 only), and 38 400 (MMP40 only) for MMLink. Note that a system reboot is not required when the baud rate is reset.
- **Parity** This field does not apply to MMLink.

Procedure 4-10

Modifying MMLink data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Set the parameters as required. When the baud rate of the MMLink Data Port is to be changed, ensure that the application using the MMLink Data Port is shut down.
- 3 Choose step 3a to save the changes, or 3b to cancel.
 - a. Press [Save].
Changes are saved. The Data Port Configuration screen appears.
 - b. Press [Cancel].
Any changes you have made are discarded. The Data Port Configuration screen appears.
- 4 If the baud rate has been changed, restart the application using the MMLink Data Port.

Modify NWModem data ports

The Modify Data Port screen for Networking Modems (see Figure 4-15) allows you to specify the Directory Number (DN) of the modem connected to the selected port.

Figure 4-15
Modify Data Port screen for NWModems

Hardware Administration

Modify Data Port

Data Port Location: 1-3-1

Device Type: NWModem

Device Name: MOD0131

Network Modem DN: _____

Save Cancel

The following fields are displayed in the screen:

- **Data Port Location** This is the physical location of the port in the Meridian Mail system (node-card-span).
Note: Ports on the SBC card or the MMP40 card do not support networking. For EC systems, use one of the ports on the Utility card (except port 1 if the card has a built-in modem). For non-EC systems, use one of the ports on the RSM card.
- **Device Type** This is the function of the port. Set it to NWModem.
- **Device Name** This is the name of the device.
- **Network Modem DN** This is the directory number (up to eight digits) used to identify the modem connected to the port.

Procedure 4-11
Modifying NWModem data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Modify the *Networking Modem DN* as required.
- 3 Choose step 3a to save the changes, or 3b to cancel.
 - a. Press [Save].

The changes are saved and you are returned to the Data Port Configuration screen.
 - b. Press [Cancel].

You are returned to the Data Port Configuration screen.

Modify SMDI data ports

The Modify Data Port screen for SMDI (see Figure 4-16) allows you to modify the baud rate, parity, and transmit mode of the serial connection to the switch at the selected port.

Figure 4-16
Modify Data Port screen for SMDI

Hardware Administration

Modify Data Port

Data Port Location: 2-1-2

Device Type: SMDI

Device Name: SMDI0212

Baud Rate: 1200 [2400] 4800 9600

Parity: [Even] Odd None

Transmit Mode: Simplex [Duplex]

Link Name: 1

Save Cancel [Unlabeled] [Unlabeled] [Unlabeled]

The following fields are displayed in the screen:

- **Data Port Location** This is the physical location of the port (node-card-span). It must be SBC port 2 (node 1).
- **Device Type** This is the function of the port. Set it to SMDI.
- **Device Name** This is the name of the device.
- **Baud Rate** This field should be set to 2400 for the MPC card or 1200 for the 1X67FA card.
- **Parity** Set parity to Even, Odd, or None depending on the current setup of the SMDI connected to the port.
- **Transmit Mode** The mode can be Simplex or Duplex.
- **Link Name** Enter the link's name in this field, using numeric or alpha character, or both. It is recommended that you enter a meaningful name (rather than a number) to make it easy to identify the link.

ATTENTION

Do not change the link name once it has been configured and users have been added to the system. If you change the link name, you must change the Message Waiting Link Name for each user profile that refers to the link.

Procedure 4-12 Modifying SMDI data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Set the parameters as required.
- 3 Choose step 3a to save the changes, or step 3b to cancel.
 - a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.
 - b. Press [Cancel].

Any changes you have made are discarded. The Data Port Configuration screen appears.

Note: The system must be rebooted for changes to take effect.

Modify PMS data ports

This screen is applicable only if Hospitality Voice Messaging is installed. This screen can be ignored if your Meridian Mail hospitality system is not connected to a Property Management System (PMS). The Modify Data Port screen for PMS (see Figure 4-17) allows you to modify the baud rate, and parity of the serial connection to the Meridian 1. This is not applicable to MSM systems.

Figure 4-17
Modify Data Port screen for PMS

Hardware Administration

Modify Data Port

Data Port Location: 1-8-3

Device Type: PMS

Device Name: CON0183

Baud Rate: [1200] 2400 4800 9600

Parity: Even Odd [None]

Save Cancel

The following fields are displayed on this screen:

- **Data Port Location** This is the physical location of the port.
- **Device Type** This is the function of the port. Set it to PMS.
- **Device Name** This is the name of the device.
- **Baud Rate** This field should be set to 1200.
- **Parity** This field should be set to None.

Procedure 4-13
Modifying PMS data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
 - 2 Set the parameters as required.
 - 3 Choose step 3a to save the changes, or step 3b to cancel.
 - a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.
 - b. Press [Cancel].

Any changes you have made are discarded. The Data Port Configuration screen appears.
- Note:** The system must be rebooted for changes to take effect.

Modify AdminPlus data ports

(This screen is applicable only if AdminPlus is installed.) The Modify Data Port screen for AdminPlus (see Figure 4-18) allows you to modify the baud rate and parity of the serial connection to the Meridian 1.

Figure 4-18
Modify Data Port screen for AdminPlus

Hardware Administration

Modify Data Port

Data Port Location: 1-8-3

Device Type: AdminPlus

Device Name: ADM183

Baud Rate: [2400] 4800 9600

Parity: Even Odd [None]

Save Cancel

The following fields are displayed on this screen:

- **Data Port Location** This is the physical location of the port.
- **Device Type** This is the function of the port. Set it to AdminPlus.
- **Device Name** This is the name of the device.
- **Baud Rate** This field can be set to 2400, 4800, or 9600, subject to engineering constraints.
- **Parity** This field should be set to None.

Procedure 4-14
Modifying AdminPlus data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Set the parameters as required.
- 3 Choose step 3a to save the changes, or step 3b to cancel.
 - a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.

Note: A system reboot is not required if only the baud rate of the data port is changed.
 - b. Press [Cancel].

Any changes you have made are discarded. The Data Port Configuration screen appears.

Note: The system must be rebooted for changes to take effect.

Modify Modem data ports

The Modify Data Port screen for Modems (see Figure 4-19) allows you to modify the modem characteristics.

Figure 4-19
Modify Data Port screen for Modems

Hardware Administration

Modify Data Port

Data Port Location: 1-8-3

Device Type: Modem

Device Name: CON0183

Baud Rate: 1200 [2400] 4800 9600

Parity: Even Odd [None]

Save Cancel

The following fields are displayed on this screen:

- **Data Port Location** This is the port's physical location (node-card-port) in the system.
- **Device Type** This is the function of the port. Set it to Modem.
- **Device Name** This is the name of the device.
- **Baud Rate** This setting will depend on the current setup of the modem connected to the port.
- **Parity** This setting will depend on the current setup of the modem connected to the port.

Procedure 4-15
Modifying Modem data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
 - 2 Set the parameters as required.
 - 3 Choose step 3a to save the changes, or step 3b to cancel.
 - a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.
 - b. Press [Cancel].

Any changes you have made are discarded. The Data Port Configuration screen appears.
- Note:** The system must be rebooted for changes to take effect.

Modify MSLink data port

This screen is applicable only if the Meridian Mail AutoAdmin feature is enabled. The Modify Data Port screen for MSLink (see Figure 4-20). allows you to modify the characteristics of the link connection to a PC used for Meridian Mail AutoAdmin.

Figure 4-20
Modify Data Port screen for MSLink

Hardware Administration

Modify Data Port

Data Port Location: 1-8-3

Device Type: MSLink

Device Name: MSL0183

Baud Rate: 2400 4800 [9600] 19200 38400

Parity: Even Odd [None]

Save Cancel

The following fields are displayed on this screen:

- **Data Port Location** This is the port's physical location (node-card-port) in the system.
- **Device Type** This is the function of the port. Set it to MSLink.
- **Device Name** This is the name of the device.
- **Baud Rate** This field can be set to 2400, 4800, 9600, 19200, or 38400, depending on the current setup of the modem connected to the port. Note that a system reboot is not required when the baud rate is reset.
- **Parity** This field does not apply to MSLink.

Procedure 4-16
Modifying MSLink data ports

Starting point: The TOOLS level Data Port Configuration screen

- 1 Follow Procedure 4-7 to access the Modify Data Port screen.
- 2 Set the parameters as required.
- 3 Choose step 3a to save the changes, or step 3b to cancel.
 - a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.
 - b. Press [Cancel].

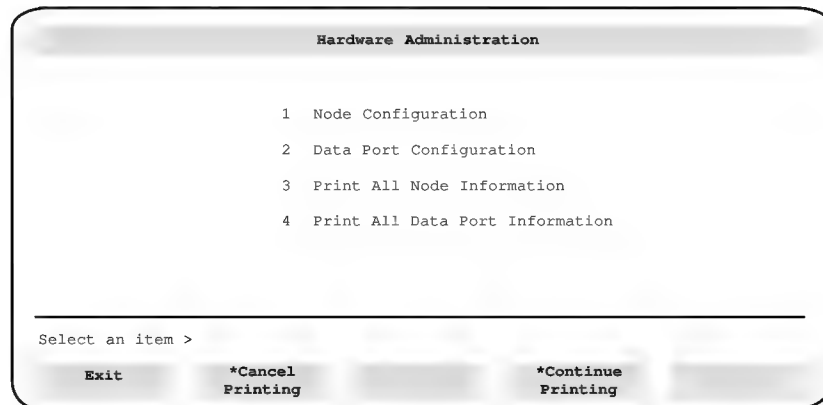
Any changes you have made are discarded. The Data Port Configuration screen appears.

Note: The system must be rebooted for changes to take effect.

Print node or data port information

The following procedure describes how to print a list of all the node or data port information contained in the hardware database.

Figure 4-21
Hardware Administration menu



Note: * The Printing softkeys appear only when choice 3 or 4 is selected.

Procedure 4-17**Printing node and data port information**

Starting point: The Hardware Administration menu

- 1 Select <3> or <4> to print all node or data port information and press <Return>.

The following softkeys appear: [Continue Printing] and [Cancel Printing].

You are prompted to check that the printer is ready and on-line.

- 2 Choose step 2a to print the node information, or 2b to cancel.

- a. Press [Continue Printing].

The node information begins printing.

Once printing is complete, the Hardware Administration menu and its softkeys are redisplayed; you may stop printing at any time by proceeding to 2b.

- b. Press [Cancel Printing].

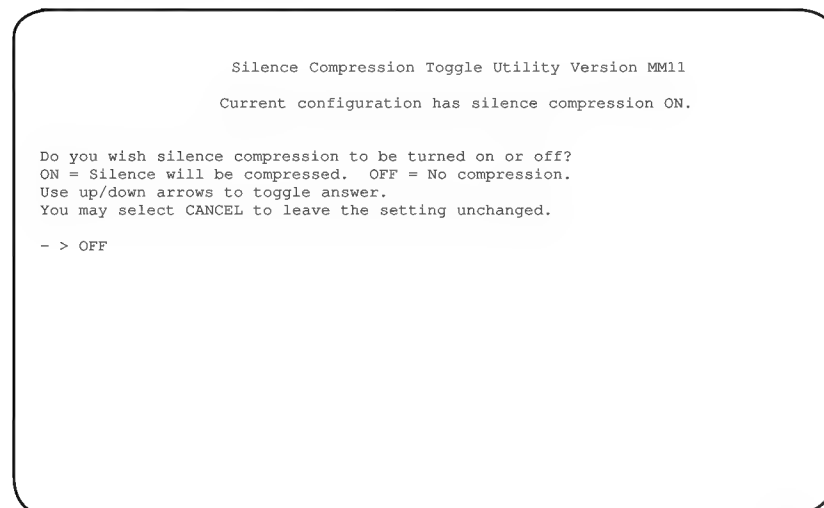
The print operation is canceled and you are returned to the Hardware Administration menu.

There may be some delay before control is returned to the menu while the system waits for the printer to stop printing.

Chapter 5: Set silence compression

The Set silence compression tool (see Figure 5-1) allows you to activate or deactivate the Silence Compression feature. This feature removes (compresses) extended periods of silence from messages.

Figure 5-1
Silence Compression screen



Procedure 5-1
Activating/deactivating Silence Compression

Starting point: The TOOLS menu

- 1 Select Set silence compression, and press <Return>.

The Silence Compression Toggle Utility screen appears (see Figure 5-1).

Note: The actual screen display may differ slightly from the illustration.

- 2 Choose the required setting by using the up/down cursor keys. If you want to cancel, press the up/down arrow keys until CANCEL appears and press <Return>.

Note: Be sure that the prompt line displays the correct setting before you press <Return>. If silence compression is turned on when you enter this utility, the command line does not display the current setting but displays OFF (the utility assumes you have entered the utility to make a change).

- 3 Press <Return>.

The selection is made and the utility is terminated.

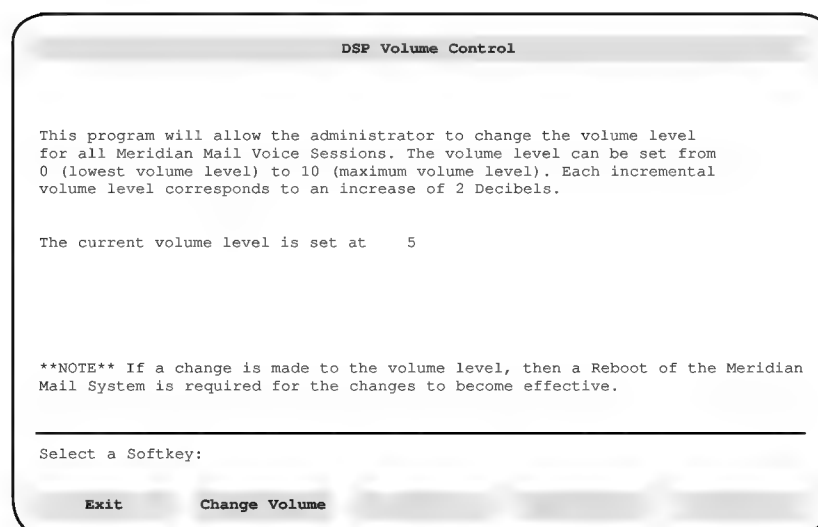
Note: If a change is made, you will have to reboot the system for the change to take effect.

Chapter 6: Control volume

The Control volume tool allows the administrator to change the volume levels on both recording and playback voice paths. Each level change of one unit, from level 0 to level 10, corresponds to an increase of two decibels.

Volume control changes cannot be performed on a 16K NVP (NT4R01AA) card.

Figure 6-1
Control Volume utility screen



Procedure 6-1
Changing the volume level

Starting point: The TOOLS menu

- 1 Select Control volume, and press <Return>.
The current volume level is shown in the center of the screen.
- 2 Press [Change Volume] to change the volume level.
- 3 Enter the desired volume level and press <Return>.
The screen is redrawn, showing the updated volume level.
- 4 Press [Exit] to return to the TOOLS menu.

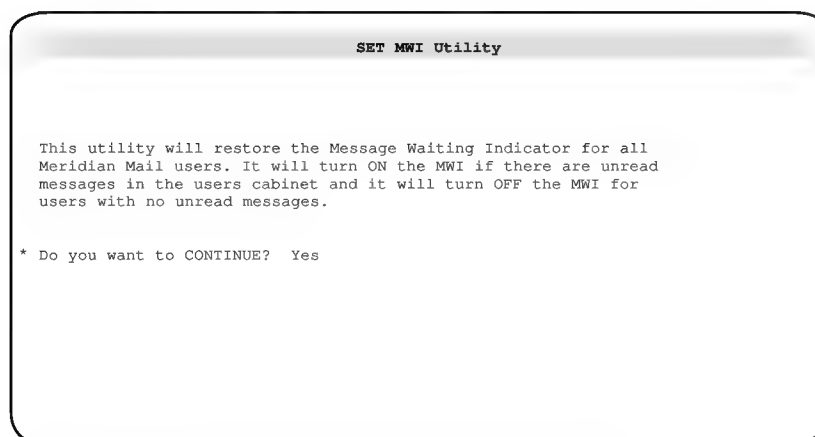
Note: The system must be rebooted for a change in volume level to take effect.

Chapter 7: Update MWI

The Update MWI tool restores the Message Waiting Indicators (MWIs) for all Meridian Mail users. It turns on the MWI if there are unread messages in a user's cabinet, and it turns off the MWI for users with no unread messages.

This tool should be run after the switch is rebooted since a reboot causes all message waiting indicators to be turned off. It is also useful if the link (AML or SMDI) goes down at a peak time period, because users who were connected to Meridian Mail at the time may not have had their MWI updated. The update requires 0.4 seconds per user (slow option) or 0.1 seconds per user (fast option) to complete.

Figure 7-1
SET MWI Utility screen



Note: * Use the up/down arrow keys to toggle the response from Yes to No.

Procedure 7-1
Restoring message waiting indicators

Starting point: The TOOLS menu

- 1 Select Update MWI, and press <Return>.

The screen displays information about the SET MWI tool and prompts:

```
Do you want to continue? YES
```

- 2 Use the up/down arrow keys to toggle the response from YES to NO, or from NO to YES. Follow step 2a to reset the MWIs, or step 2b to cancel.
 - a. Select YES and press <Return> to reset the MWIs.
 - b. Select NO and press <Return> if you do not want to reset the MWIs.

- 3 If you choose YES, another set of prompts (shown below) are displayed. Use these CheckTime prompts to enter the date and time that the link to the switch went down:

```
CheckTime YR: 1994
CheckTime MON (1..12): 1
CheckTime DAY (1..31): 1
CheckTime HR (0..23): 0
CheckTime MIN (0..59): 0
CheckTime SEC (0..59): 0
```

After you respond to the CheckTime prompts, the following message is displayed:

```
Initiated the updating of Message Waiting
Indicators.
```

```
Press <Return> to continue...
```

- 4 Press <Return> to terminate the utility and return to the TOOLS menu.

The following SEERs are produced for each node that has users:

```
INF 9106 SYSTEM 04/29/94 09:52:13 *** NODE=1 HWLOC=NULL
DES: MWIAUDIT VS2: Starting the Audit LNTC=05:7E:08833809:007B51C5
```

```
INF 9105 SYSTEM 04/29/94 09:52:15 *** NODE=1 HWLOC=NULL
DES: MWIAUDIT VS2: The Audit is Finished. LNTC=05:7E:08833809:007B5263
```

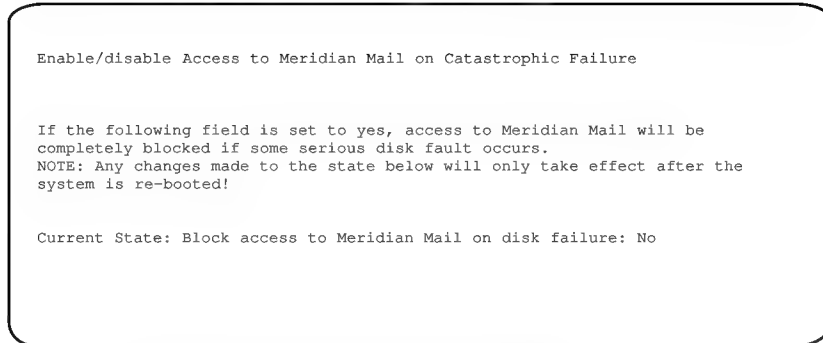
Chapter 8: Block Meridian Mail

The Block Meridian Mail tool allows the administrator to choose whether to deny all access to Meridian Mail voice services in the event of a serious disk failure.

If access is blocked and a disk failure occurs, Meridian Mail voice services shut down, and calls are immediately routed to a live attendant (as configured on the PBX). Meridian Mail system administration and maintenance capabilities remain operational.

Note: When Meridian Mail is first installed, the default is set to not block access to Meridian Mail voice services in the event of a serious disk failure.

Figure 8-1
Block Meridian Mail Screen: "No" as Default



Procedure 8-1
Enable blocking of Meridian Mail on disk error

Starting point: The TOOLS menu

- 1 Select Block Meridian Mail, and press <Return>.
Figure 8-1 displays the No default with a short explanation of what happens when Yes is selected.
- 2 If you choose "Yes" to enable blocking, go to step 3.
If you choose "No" to keep blocking disabled, go to step 6.
- 3 If blocking access to Meridian Mail is required, choose "Yes" by using the up/down arrow keys, then press <Return>.

The following screen is displayed:

Figure 8-2
Block Meridian Mail Screen: Changing “No” to “Yes”

```
Enable/disable Access to Meridian Mail on Catastrophic Failure

If the following field is set to yes, access to Meridian Mail will be
completely blocked if some serious disk fault occurs.
NOTE: Any changes made to the state below will only take effect after the
system is re-booted!

Current State: Block access to Meridian Mail on disk failure: Yes

Warning: After this system is re-booted, there will be NO access to
Meridian Mail should a disk failure ever be detected.

Do you wish to continue with this change? Yes
```

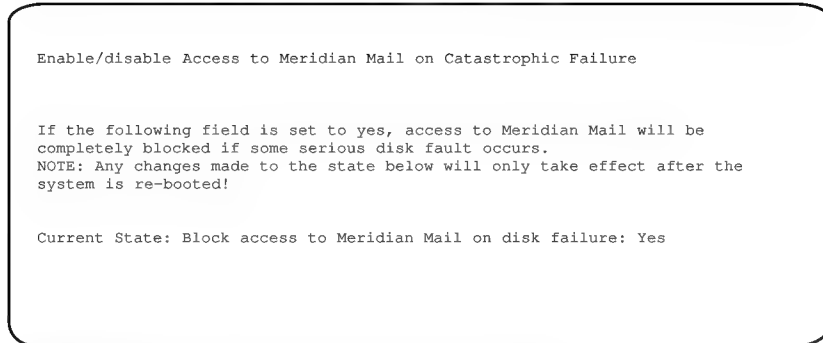
- 4 At the “Do you wish to continue with this change? Yes” prompt, press <Return> to confirm “Yes” as your selection.
At this point, the TOOLS menu is displayed.
- 5 Re-boot your system in order for the change to take effect.
- 6 If you DO NOT wish to block access at this time, do the following:
 - a. Do not change “No” at the “Current State” prompt (see Figure 8-1).
 - b. Press <Return>.

The message “No change made” is displayed, then the TOOLS menu is displayed. No system reboot is necessary since no change has been made.

- c. If you have chosen “Yes” at the “Current State:” prompt already, but have decided to disable access at this time, then choose “No” at the “Do you wish to continue with this change?” prompt.
- d. Press <Return>.

The message “No change made” is displayed, then the TOOLS menu is displayed. No system reboot is necessary since no change has been made.

Figure 8-3
Block Meridian Mail Screen: "Yes" as Default



Procedure 8-2
Disable blocking of Meridian Mail on disk error

Starting point: The TOOLS menu

- 1 Select Block Meridian Mail, and press <Return>.
Figure 8-3 displays the Yes default with a short explanation of what happens when Yes is selected.
- 2 If you choose "No" to disable blocking, go to step 3.
If you choose "Yes" to keep blocking enabled, go to step 6.
- 3 To disable blocking of Meridian Mail, choose "No" by using the up/down arrow keys, then press <Return>.

The following screen is displayed:

Figure 8-4
Block Meridian Mail Screen: Changing “Yes” to “No”

```
Enable/disable Access to Meridian Mail on Catastrophic Failure

If the following field is set to yes, access to Meridian Mail will be
completely blocked if some serious disk fault occurs.
NOTE: Any changes made to the state below will only take effect after the
system is re-booted!

Current State: Block access to Meridian Mail on disk failure: No

Warning: After this system is re-booted, access to Meridian Mail will NOT
be blocked should a disk failure ever be detected.

Do you wish to continue with this change? Yes
```

- 4 At the “Do you wish to continue with this change? Yes” prompt, press <Return> to confirm “No” as your selection.
At this point, the TOOLS menu is displayed.
- 5 Re-boot your system in order for the change to take effect.
- 6 If you wish to retain block access at this time, do the following:
 - a. Do not change “Yes” at the “Current State” prompt (see Figure 8-3).
 - b. Press <Return>.
The message “No change made” is displayed, then the TOOLS menu is displayed. No system reboot is necessary since no change has been made.
 - c. If you have chosen “No” at the “Current State:” prompt already, but have decided not to disable access at this time, then choose “No” at the “Do you wish to continue with this change?” prompt.
 - d. Press <Return>.
The TOOLS menu is displayed. No system reboot is necessary since no change has been made.

Chapter 9: Session Trace

The Session Trace tool allows you to obtain detailed information about the activity in a user's mailbox and the state of the message waiting indicator (MWI). The session information includes voice messaging; call answering; express messaging activity (messages composed and sent, or left in a mailbox); the number of messages played or left unplayed at the start, during, and end of a session; messages and personal distribution lists restored into a mailbox; messages deleted from a mailbox by the VS Audit; the last change to the message waiting indicator (turned on or off, or untouched).

This session information allows an administrator or technician to study the state of a user's mailbox and the message waiting indicator, and use that information to follow up on any user complaints about Meridian Mail. For example, a user may complain that the MWI was on, but no voice messages were in the mailbox when the user logged in. The session information may tell the administrator why the MWI was turned on. Refer to the "Session trace report" section for more information about using session trace for diagnostics.

Note: The session information is retrieved from the Operational Measurements billing file, and this billing data is stored only when "Collect User Usage Data" in the Operational Measurement Options screen is enabled. Session trace data is kept on the system for only two days plus the current day. Operational Measurements billing files and the Options screen are discussed in the "Operational Measurements" chapter of the *System Administration Guide* appropriate to your system.

Find the session

When you select Session Trace from the TOOLS menu, the following screen (see Figure 9-1) is displayed.

Figure 9-1
User Selection and Session Trace Form

```

Session Trace Utility

User Selection and Session Trace Form

* Customer Number: _____

Last Name: _____ Volume ID: _____
First Name: _____
Department: _____
Mailbox Number: _____ ** SubMailbox: _____

Session Type: Any    Call_Answering    Express_Messaging    Voice_Messaging
                Message_Delivery       Selective_Restore    VS_Audit

*** Search for Mbox of: Receiver  Sender

Calling DN: _____ Called DN: _____

Report Start (mm/dd/yy hh:mm): _____ (or blank for oldest)
Report End   (mm/dd/yy hh:mm): _____ (or blank for newest)

-----
Select a softkey >

Exit      View      Print
  
```

Note 1: * This field appears only on multi-customer systems.

Note 2: ** This field appears only on VMUIF systems.

Note 3: *** This field differs if the “Session Type” field is set to Message Delivery.

Figure 9-2
User Selection and Session Trace Form (with search criteria filled in)

Session Trace Utility

User Selection and Session Trace Form

*Customer Number: 1

Last Name: Zhelka Volume ID:

First Name: Eric

Department: 9T24

Mailbox Number: 8060 **SubMailbox: _

Session Type: Any Call_Answering Express_Messaging Voice_Messaging
 Message_Delivery Selective_Restore VS_Audit

Search for Mbox of: [Receiver] Sender

Calling DN: Called DN:

Report Start (mm/dd/yy hh:mm): 09/08/93 13:00 (or blank for oldest)
 Report End (mm/dd/yy hh:mm): (or blank for newest)

Select a softkey >

Exit View Print

Note 1: * This field appears only on multi-customer systems.

Note 2: ** This field appears only on VMUIF systems.

Note 3: *** This field differs if the “Session Type” field is set to Message Delivery.

Enter as many search criteria in the “User selection” screen as you think you need to uniquely identify the session you want to view. The fields are described below:

- **Customer Number** This is the customer group you want to search. This field appears only on multi-customer systems.
- **Last Name** This is the last name of the user whose session information you want to find (maximum 41 characters). To find a group of users with similar last names, use wildcard characters (exception +).
- **Volume ID** This is the hard disk volume to which the user is assigned. All users are assigned to a volume.

- **First Name** This is the first name of the user whose session information you want to find (maximum 21 characters). To find a group of users with similar first names, use wildcard characters (exception +).
- **Department** This is the department to which the user or group of users that you want to find belongs. This field can hold up to 33 characters.
- **Mailbox Number** If networking is installed, this field can hold up to 28 characters. If it is not installed, it holds up to 18 characters. Session information for mailboxes at a specific NMS satellite location can also be retrieved by prefixing the mailbox number with the appropriate location code.
- **SubMailbox** This is a one-digit number identifying a submailbox if one exists. The user can input the numbers 1 to 8 to specify a submailbox. This field appears only on VMUIF systems.
- **Session Type** The session type is the action that occurred on the mailbox. The session types are grouped into the following categories:
 - **Call Answering** This type of session is created when a message is left in a mailbox through Call Answering. This does not include sessions where a message is left in a mailbox using compose and send.
 - **Express Messaging** This type of session is created when a message is received from someone using Express Messaging.
 - **Message Delivery** This session type is created when a message is deposited in a mailbox as a result of compose and send (including messages from remote network sites).
 - **Selective Restore** This session type is created when messages or PDLs are added to a mailbox as a result of a selective restore. It also reports the corresponding effect on the MWI.
 - **VS Audit** A volume server audit session report is generated for each mailbox from which the audit deletes one or more messages, whether invoked manually, or run automatically in the nightly audit.

- **Voice Messaging** This type of session is created any time a user logs in to his or her mailbox. This session type includes activities such as logging in to listen to messages, to compose and send messages, or to record a new greeting.

The default is “Any,” which includes all session types.

- **Search for Mbox of** Whether you wish to search for session information for the mailbox of the receiver or the sender. This field is presented only if the session type is chosen to be Message_Delivery. This enables you to trace the message from the sender to the recipient.
- **Calling DN** This is the DN of the phone that initiates the session. For example, if a user logs in to his or her mailbox from a remote phone, the Calling DN will be the DN of the remote phone, not the user’s regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone. This field does not apply to Message Delivery, VS Audit, or Selective Restore.
- **Called DN** This is the DN that was called to initiate that session. For Logon Session and Express Messaging sessions, the Called DN is the Voice Messaging ACD-DN (the main Meridian Mail ACD-DN). For Call Answering sessions, this is the DN of the mailbox that had a message left in it. This field does not apply to Message Delivery, VS Audit, or Selective Restore.
- **Report Start** This is the start of the time period that you wish to search for session information. If left blank, the session trace report will begin with the oldest session still recorded in the OM billing files.
- **Report End** This is the end of the time period that you wish to search for session information. If left blank, the session trace report will end with the most recent session recorded in the OM billing files.

When you have finished entering the search criteria, select the [View] or [Print] softkey to initiate the search.

If you have entered enough criteria to identify one user, the session information for that user’s mailbox is displayed (if you chose [View]) or printed (if you chose [Print]). A sample report is shown later in this chapter in the section titled “Session trace report.”

If you have not entered enough criteria to identify one user, a message on the screen informs you that multiple matches were found. The section titled “Select the user” discusses this situation.

Select the user (if multiple matches found)

If the search retrieves session information for more than one user, the [View] and [Print] softkeys change to [Cancel] and [List Matches].

Press [List Matches] to view a list of the users that matched the search criteria, or press [Cancel] to return to the User Selection and Session Trace Form. If you select [List Matches], the following screen (see Figure 9-3) is displayed.

Figure 9-3
List Users matching search screen

*Customer	Name	Mailbox	Department
1	Zhelka, Eric	8060	9T24
4	Zhelka, Eric	8145347	BNR2

Select a softkey >

Exit View Print

Note: * Single customer systems do not show a value in this column.

Select the appropriate user (use the arrow keys to move to the appropriate line and press the space bar) and then press [View] or [Print]. A sample report is shown in the “Session trace report” section. If you do not wish to view session information for any of the matches, press [Exit] to return to the “User Selection” screen.

Session trace reports

The session trace report is displayed or printed when you press [View] or [Print] on the “User Selection and Session Trace Form” or “List users matching search” screens.

The Logon session trace report

An example of the Logon session trace report is shown in Figure 9-4.

Figure 9-4
Logon session trace report

The screenshot shows a terminal window titled "Session Trace Utility". Inside, it displays a "Session Trace Report" for a Logon session. The report includes fields for Name, Mailbox, Customer Number, Sbox, Session Start/End Times, Session Length, Called DN, Calling DN, DN Type, Call Origination, Last MWI Action, and various message statistics (Total Msgs, Unplayed Msgs, New Played, New Arrived, Sent, Composed, Replied, Forwarded, Total Deleted, New Deleted). It also shows Message Lengths (Minimum, Maximum, Total) and Time Delivered. At the bottom, there is a prompt "Select a softkey >" and two buttons: "EXIT" and "Next Record".

```

Session Trace Utility

Session Trace Report

Name Zhelka, Eric
Mailbox: 8060
Customer Number: 1 Sbox: 0
Session Start Time: 0/02/98 10:01
Session End Time: 0/02/98 10:03
Session Length (hh:mm:ss): 00:02:10
Called DN: 3650
Calling DN: 8050
Last MWI Action: Turned On
DN Type: internal extension
External Msgs affect MWI: No
Call Origination: internal
Submailboxes affect MWI: No

Start of Session
Total Msgs: 2 Unplayed Msgs: 0 New Played: 0 New Arrived: 1
End of Session
Total Msgs: 3 Unplayed Msgs: 1 Replied: 0 Composed: 0
Total Deleted: 0 New Deleted: 0
Message Lengths (Seconds)
Minimum: 10 Maximum: 90 Total: 150
Time Delivered: 0

Select a softkey >

EXIT Next Record
  
```

Press [Exit] to return to the User Selection and Session Trace Form.

A session starts as soon as the mailbox is accessed. For example, a Logon Session starts as soon as the user logs in to the mailbox.

The fields in the Logon session trace report are described below:

- **Name** This is the name of the user whose session information you have requested.
- **Mailbox** This is the mailbox of the user.

- **Customer Number** This is the customer group you have selected.
- **Sbox** This is a one digit number identifying a submailbox if one exists. Numbers available for submailboxes on the session trace report are from 2 to 9.
- **Session Type** This identifies the type of session, in this case, Logon. If this was an invalid logon, then this field displays Invalid Logon.
- **Session Start Time** This is the date and time that the session started. This is not the same as the Report Start indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time.
- **Session End Time** This is the date and time that the session ended. This is not the same as the Report End indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- **Session Length (hh:mm:ss)** The length of the session, reported in hours:minutes:seconds.
- **Called DN** This is the DN that was called to initiate that session. For Logon Session and Express Messaging sessions, the Called DN is the Voice Messaging ACD-DN (the main Meridian Mail ACD-DN). For Call Answering sessions, this is the DN of the mailbox that had a message left in it.
- **Calling DN** This is the DN of the phone that initiates the session. For example, if a user logs in to his or her mailbox from a remote phone, the Calling DN will be the DN of the remote phone, not the user's regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone.
- **DN Type** The following strings are used to specify the DN type of the calling DN:
 - international number
 - national number
 - special number
 - location code call (example, ESN)
 - coordinated dialing plan
 - reserved

- internal extension
- route access code/member
- route access code only
- attendant code/member number
- ACD-DN position ID
- ACD and position and DNIS
- IANI ACD-DN and position ID
- in-band ANI
- ACD-DN
- **Call Origination** If the call originated on the local switch, or any switch in an NMS network, this field will show Internal. If the call came in from outside the local switch (or outside the NMS network if you have NMS installed), this field will show External.
- **Last MWI Action** The possible values and their implications are as follows:
 - **Turned On** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox, the user had the appropriate MWI Action in his or her COS, and the MWI was not already on. If the MWI was on at the start of the session, this field would show Untouched.
 - **Turned Off** The last action in the session was to turn off the MWI. This would occur if all new messages were read and the MWI was not already on. If the MWI was off at the start of the session and remained off, this field would show Untouched. This never occurs during a selective restore session.
 - **Untouched** The state of the MWI was not changed throughout the session. The MWI either stayed on or stayed off through the entire session.
- **External Msgs affect MWI** The possible values are No and Yes. If set to Yes, then non-voice messaging messages affect the MWI. For example, in hotels that use the MWI to indicate text messages left at the front desk, as well as voice mail left through Meridian Mail, this field may be set to Yes.

- **Submailboxes affect MWI** The possible values are No and Yes. If set to Yes, then messages deposited in other submailboxes affect the MWI. If the MWI has been turned on or off as a result of activity in any submailboxes to this mailbox, this field displays Yes. Otherwise, this field displays No. This field is applicable only on VMUIF systems.
- **Start of Session** The following information appears under this heading:
 - **Total Msgs** The total number of messages in the mailbox at the start of the session.
 - **Unplayed Msgs** This is the number of unplayed messages in the mailbox at the start of the session. Unplayed messages are new messages. Old messages that have already been played during earlier sessions are not included.
- **During Session** The following information appears under this heading:
 - **New Played** This is the number of new messages played during the session. Any messages that have not been played yet are labeled as new messages. This includes messages received during or prior to this session but never played.
 - **New Arrived** This is the number of messages that arrived during the session.
 - **Sent** For Logon sessions, this field shows the number of messages that were sent from this mailbox using compose and send, reply, reply-all, and forward.
 - **Composed** This is the number of messages composed during the session.
 - **Replied** This is the number of messages created and sent using the reply or reply-all options on Meridian Mail (reply to received message).
 - **Forwarded** This is the number of messages forwarded during this session.
 - **Total Deleted** The total number of messages deleted during this session.
 - **New Deleted** The number of new messages deleted during this session.

- ***Time Delivered*** This is the number of messages composed with a programmed delivery time submitted during the session.
- ***End of Session*** The following information appears under this heading:
 - ***Total Msgs*** This is total number of messages in the mailbox at the end of session. This includes any messages that were restored during this session, as well as any other messages that have arrived during this session.
 - ***Unplayed Msgs*** The number of unplayed messages — that is, new messages in the mailbox at the end of the session. This includes any messages that were saved as a new VMUIF session.
- ***Message Lengths (Seconds)*** This is the shortest (Minimum) message, the longest (Maximum) message, and the total length of all messages composed or created during the session. These values are listed across the report beside the headings “Minimum,” “Maximum,” and “Total.”

The Call Answering session trace report

An example of the Call Answering session trace report is shown in Figure 9-5.

Figure 9-5
Call Answering session trace report

The screenshot shows a terminal window titled "Session Trace Utility". Inside, it displays a "Session Trace Report" for a "Call Answering" session. The report includes fields for Name, Mailbox, Customer Number, Sbox, Session Start/End Times, Session Length, Called/Calling DNs, DN Type, Call Origination, Last MWI Action, Message Disposition, and Message Length. At the bottom, there is a prompt "Select a softkey >" and two buttons: "EXIT" and "Next Record".

Session Trace Report		Session Type:	Call Answering
Name	Zhelka, Eric		
Mailbox:	8060	Session Start Time:	0/02/98 10:01
Customer Number:	1	Session End Time:	0/02/98 10:03
Sbox:	0	Session Length (hh:mm:ss):	00:02:10
Called DN:	3650	Last MWI Action:	Turned On
Calling DN:	8050	Message Disposition:	Short Msg Deleted
DN Type:	internal extension	Message Length (Seconds)	1
Call Origination:	internal		

Select a softkey >

EXIT Next Record

The fields in the Call Answering session trace report are described below:

- **Name** This is the name of the user whose session information you have requested.
- **Mailbox** This is the mailbox of the user.
- **Customer Number** This is the customer group that the recipient belongs to.
- **Sbox** This is a one digit number identifying a submailbox if one exists. Numbers available for submailboxes on the session trace report are from 2 to 9. This field appears only for VMUIF users.
- **Session Type** This identifies the type of session, in this case, Call Answering.

- **Session Start Time** This is the date and time that the session started. This is not the same as the Report Start indicated on the “User Selection” screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time.
- **Session End Time** This is the date and time that the session ended. This is not the same as the Report End indicated on the “User Selection” screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- **Session Length (hh:mm:ss)** The length of the session, reported in hours:minutes:seconds.
- **Called DN** This is the DN that was called to initiate that session. For Call Answering sessions, this is the DN of the mailbox that had a message left in it.
- **Calling DN** This is the DN of the phone that initiates the session. For example, if a user calls from a remote phone, the Calling DN will be the DN of the remote phone, not the user’s regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone.
- **DN Type** The following strings are used to specify the DN type of the calling DN:
 - international number
 - national number
 - special number
 - location code call (example, ESN)
 - coordinated dialing plan
 - reserved
 - internal extension
 - route access code/member
 - route access code only
 - attendant code/member number
 - ACD-DN position ID
 - ACD and position and DNIS
 - IANI ACD-DN and position ID

- in-band ANI
- ACD-DN
- **Call Origination** If the call originated on the local switch, or any switch in an NMS network, this field will show Internal. If the call came in from outside the local switch (or outside the NMS network if you have NMS installed), this field will show External.
- **Last MWI Action** The possible values and their implications are as follows:
 - **Turned On** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox, the user had the appropriate MWI Action in his or her COS, and the MWI was not already on. If the MWI was on at the start of the session, this field would show Untouched.
 - **Turned Off** The last action in the session was to turn off the MWI. This would occur if all new messages were read and the MWI was not already on. If the MWI was off at the start of the session and remained off, this field would show Untouched. This never occurs during a selective restore session.
 - **Untouched** The state of the MWI was not changed throughout the session.
- **Message Disposition** The possible values and their implications are as follows:
 - **Not Recorded** The user did not record a message (that is, he or she hung up before the recording beep). Therefore no message was left.
 - **Left** The user left a message.
 - **Short Msg Deleted** The message that was left was too short and was therefore deleted by the system.
 - **Deleted by Caller** The message was initially recorded by the user and deleted before the end of the session. Therefore no message was left.
- **Message Length (Seconds)** The length of the left message.

The Express Messaging session trace report

An example of the Express Messaging session trace report is shown in Figure 9-6.

Figure 9-6
Express Messaging session trace report

The screenshot shows a terminal window titled "Session Trace Utility". Inside, a "Session Trace Report" is displayed for user "Zhelka, Eric". The report includes fields for Name, Mailbox (8060), Customer Number (1), Session Type (Express Messaging), Session Start Time (0/02/98 10:01), Session End Time (0/02/98 10:01), Session Length (00:00:33), Called DN (3650), Calling DN (8050), DN Type (internal extension), Call Origination (internal), Last MWI Action (Turned On), Message Disposition (Deleted by Caller), and Message Length (0 seconds). At the bottom, there is a "Select a softkey >" prompt and two buttons: "EXIT" and "Next Record".

```

Session Trace Utility

Session Trace Report

Name      Zhelka, Eric
Mailbox:  8060
Customer Number: 1

Called DN:      3650
Calling DN:     8050
DN Type:        internal extension
Call Origination: internal

Session Type:   Express Messaging

Session Start Time: 0/02/98 10:01
Session End Time:   0/02/98 10:01
Session Length (hh:mm:ss): 00:00:33

Last MWI Action:   Turned On
Message Disposition: Deleted by Caller
Message Length (Seconds) 0

Select a softkey >

EXIT      Next Record
  
```

The fields in the Express Messaging session trace report are described below:

- **Name** This is the name of the user whose session information you have requested.
- **Mailbox** This is the mailbox of the user.
- **Customer Number** This is the customer group that the user belongs to.
- **Session Type** This identifies the type of session, in this case, Express Messaging.
- **Session Start Time** This is the date and time that the session started. This is not the same as the Report Start indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time

- **Session End Time** This is the date and time that the session ended. This is not the same as the Report End indicated on the “User Selection” screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- **Session Length (hh:mm:ss)** The length of the session, reported in hours:minutes:seconds.
- **Called DN** This is the DN that was called to initiate that session. For Express Messaging sessions, the Called DN is the Express Messaging ACD-DN (the main Meridian Mail ACD-DN).
- **Calling DN** This is the DN of the phone that initiated the session. For example, if a user calls from a remote phone, the Calling DN will be the DN of the remote phone, not the user’s regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone.
- **DN Type** The following strings are used to specify the DN type of the calling DN:
 - international number
 - national number
 - special number
 - location code call (example, ESN)
 - coordinated dialing plan
 - reserved
 - internal extension
 - route access code/member
 - route access code only
 - attendant code/member number
 - ACD-DN position ID
 - ACD and position and DNIS
 - IANI ACD-DN and position ID
 - in-band ANI
 - ACD-DN

- **Call Origination** If the call originated on the local switch, or any switch in an NMS network, this field will show Internal. If the call came in from outside the local switch (or outside the NMS network if you have NMS installed), this field will show External.
- **Last MWI Action** The possible values and their implications are as follows:
 - **Turned On** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox and the MWI was not already on. If the MWI was on at the start of the session, this field would show Untouched.
 - **Untouched** The state of the MWI was not changed throughout the session.
- **Message Disposition** The possible values and their implications are as follows:
 - **Not Recorded** The user did not record a message. Therefore no message was left.
 - **Left** The user left a message.
 - **Short Msg Deleted** The message that was left was too short and was therefore deleted by the system.
 - **Deleted by Caller** The message was initially recorded by the user and deleted before the end of the session. Therefore no message was left.
- **Message Length (Seconds)** The length of the left message.

The Message Delivery session trace report

An example of the Message Delivery session trace report is shown in Figure 9-7.

Figure 9-7
Message Delivery session trace report

The screenshot shows a terminal window titled "Session Trace Utility". Inside, it displays a "Session Trace Report" for a "Message Delivery" session. The report includes fields for Name, Mailbox, Customer Number, Sender Site, Sender Location, Sender Mailbox, Message Type, Message Compose Time, Received for Delivery, Message Delivered, Session Length, Last MWI Action, and Message Type. At the bottom, there is a prompt "Select a softkey >" and two buttons: "EXIT" and "Next Record".

Session Trace Report				Session Type:	Message Delivery
Name	Zhelka, Eric				
Mailbox:	8060			Message Compose Time:	08/02/98 13:20
Customer Number:	1			Received for Delivery:	08/02/98 13:27
				Message Delivered:	08/02/98 13:27
				Session Length (hh:mm:ss):	00:00:03
Sender Site:	500				
Sender Location:	63			Last MWI Action:	Untouched
Sender Mailbox:	8051			Message Type:	Regular
Message Type:	User				

Select a softkey >

EXIT Next Record

The fields in the Message Delivery session trace report are described below:

- **Name** This is the name of the user whose session information you have requested. This must be either the sender or the receiver. One or the other must be chosen; it is not possible to search for both.
- **Mailbox** This is the mailbox of the user. Note that when the session type is set to Any on the Find form, message delivery records are based on the receiver mailbox only. For example, if the mailbox field is set to 8050, message delivery records are returned for messages delivered to 8050, but not for messages sent by 8050.
- **Customer Number** This is the customer group that the user belongs to.

- **Session Type** This identifies the type of session, in this case, Message Delivery.
- **Message Compose Time** The time that the message was originally composed (that is, when the user pressed 75 to create the message).
- **Received for Delivery** This is the time that the message was received by the message transfer agent for delivery (that is, when the user pressed 79 to send).
- **Message Delivered** This is the time that the message was deposited into the recipient mailbox.
- **Session Length (hh:mm:ss)** The amount of time between the time when the MTA began to deliver the message and when it was placed in the mailbox. It is reported in hours:minutes:seconds.
- **Sender Site** The site from which this message was sent. If the sender is a local user, this field is set to 0. This field is set to other values only on systems with networking installed.
- **Sender Location** The location number of the sender of the message. This field is set to values other than 0 only when the sender's site has NMS installed.
- **Sender Mailbox** The mailbox number of the sender of the message.
- **Sender Type** The sender of the message. Possible types are as follows:
 - **User**
 - **System**
 - **Open AMIS User**
 - **Non User**
 - **Unknown** Only for error conditions. This should never be seen.
- **Message Type** The type of message being deposited.
- **Last MWI Action** The possible values and their implications are as follows:
 - **Turned On** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox and the user had the appropriate MWI Action in his or her COS.

- ***Untouched*** The state of the MWI was not changed throughout the session. This occurs if the recipient does not have the MWI Action set in his or her COS. Note that the Message Delivery record does not look at the existing status of the MWI. Therefore multiple messages deposited into a mailbox will have the same setting for this field.

The VS Audit session trace report

An example of the VS Audit session trace report is shown in Figure 9-8.

Figure 9-8
VS Audit session trace report

The screenshot shows a terminal window titled "Session Trace Utility". Inside, it displays a "Session Trace Report" for a VS Audit session. The report includes user information (Name: Zhelka, Eric; Mailbox: 8060; Customer Number: 1) and session details (Session Type: VS Audit; Audit Start Time: 08/02/98 1:30; Audit End Time: 08/02/98 13:33; Session Length: 00:03:03; Number of Messages Deleted: 22). At the bottom, there is a prompt "Select a softkey >" and two buttons: "EXIT" and "Next Record".

```

Session Trace Utility

Session Trace Report

Name Zhelka, Eric
Mailbox: 8060
Customer Number: 1

Session Type: VS Audit

Audit Start Time: 08/02/98 1:30
Audit End Time: 08/02/98 13:33
Session Length (hh:mm:ss): 00:03:03
Number of Messages Deleted: 22

Select a softkey >

EXIT Next Record
  
```

The fields in the VS Audit session trace report are described below:

- **Name** This is the name of the user whose session information you have requested.
- **Mailbox** This is the mailbox on which the audit was performed.
- **Customer Number** This is the customer group to which the mailbox belongs.
- **Session Type** This identifies the type of session, in this case, VS Audit.
- **Audit Start Time** The time that the audit of this mailbox started.
- **Audit End Time** The time that the audit of this mailbox ended.
- **Session Length (hh:mm:ss)** The length of time taken by the audit. It appears in the format hours:minutes:seconds.

- **Number of Messages Deleted** The number of messages deleted by the audit as a result of the read message expiry having been reached.

The Selective Restore session trace report

An example of the Selective Restore session trace report is shown in Figure 9-9.

Figure 9-9
Selective Restore session trace report

Session Trace Utility

Session Trace Report

		Session Type:	Selective Restore
Name	Zhelka, Eric	Restore Start Time:	0/02/98 13:27
Mailbox:	8060	Restore End Time:	0/02/98 20:49
		Session Length (hh:mm:ss):	00:07:22
Calling DN:	8050	Last MWI Action:	Untouched

	Start of Session	During Session	
Total Msgs:	10 Unplayed Msgs: 2	Total Messages Restored:	6
	End of Session	Unplayed Messages Restored:	2
Total Msgs:	16 Unplayed Msgs: 4	PDLs Restored:	1 _ _ _ _ 6 _ _ 9

Select a softkey >

EXIT

Next
Record

The fields in the Selective Restore session trace report are described below:

- **Name** This is the name of the user who owns the mailbox that was restored.
- **Mailbox** This is the mailbox that was restored.
- **Customer Number** This is the customer group to which the mailbox belongs.
- **Session Type** This identifies the type of session, in this case, Selective Restore.

- **Session Start Time** This is the date and time that the session started. This is not the same as the Report Start indicated on the “User Selection” screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time
- **Session End Time** This is the date and time that the session ended. This is not the same as the Report End indicated on the “User Selection” screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- **Session Length (hh:mm:ss)** The length of the session reported in hours:minutes:seconds.
- **Last MWI Action** Note that the selective restore does not know the status of the MWI when it adds messages. The possible MWI Action values and their implications are as follows:
 - **Turned On** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox, the user had the appropriate MWI Action in his or her COS.
 - **Untouched** The state of the MWI was not changed throughout the session. Note that the Selective Restore record does not look at the existing status of the MWI. Therefore multiple messages deposited into a mailbox will have the same setting for this field.
- **Total Msgs (Start of Session)** The total number of messages in the mailbox at the start of the session.
- **Unplayed Msgs (Start of Session)** The number of unplayed (new) messages in the mailbox at the start of the session.
- **Total Msgs (End of Session)** The total number of messages in the mailbox at the end of the session. This includes any messages that were restored during this session.
- **Unplayed Msgs (End of Session)** The number of unplayed (new) messages in the mailbox at the end of the session. This includes any messages that were restored during this session.
- **Total Messages Restored** The number of played and unplayed messages restored as a result of this operation.
- **Unplayed Messages Restored** The number of unplayed (new) messages restored as a result of this operation.

- ***PDLs Restored*** The personal distribution lists that were restored during this session.

Using session trace to perform diagnostics

The session trace information allows you to follow up on complaints by users regarding voice messages and the MWI. The following points describe some of the checks you can make to ensure that Meridian Mail is working properly, and some specific items to check for MWI-related complaints.

- If a user complains that a message was not delivered, the user may have forgotten to send the message after creating it. The number of unsent messages can be determined by adding the numbers recorded in the compose, reply, timed delivery submitted, and forwarded messages fields, and subtracting the number of messages sent (shown in the *Sent or Left* field).
- The delivery time of any Call Answering or Express Messaging messages that were placed in a particular mailbox can be confirmed through the session data.
- When a Call Answering or Express Messaging message is left in a mailbox, the session trace data will show this. The first Logon Session that follows the Call Answering or Express Messaging session should also show the existence of the Call Answering or Express Messaging message as a new message in the *Unplayed Msg Start of Session* field.

MWI diagnostics

- To check that the MWI is being turned on by call answering for a particular mailbox, leave a message on the mailbox using call answering. Then check the session information. Unless the MWI was already on, the last MWI action should be Turned On if the user has the appropriate COS setting. If the session information shows that the MWI was turned on but the lamp on the phone was not lit, there may be a problem with the telephone, and not with Meridian Mail.
- If a user complains that the MWI is on, but there are no voice messages, the following are two possible causes:
 - A message was left in another submailbox (VMUIF systems only) that caused the MWI to be turned on.

- A message was left using another messaging system, so there was no Meridian Mail voice message even though the MWI was turned on. For example, at a hotel, the front desk clerk may be able to turn on the guest's MWI to alert the guest about a message or note left at the front desk.

To explore these possibilities, check the session information for “External messages affect MWI” or “Messages in other SubMailboxes” that are affecting the MWI.

Procedure 9-1

Searching, selecting, and viewing a session trace report

Starting point: The TOOLS menu

- 1 Select Session Trace, and press <Return>.
The system displays a search screen titled “User Selection and Session Trace Form.”
- 2 Enter search criteria on this form that will identify the particular session you wish to view.
- 3 Press [View] or [Print] to initiate the search, and display or print the session trace reports.
If more than one mailbox is found that matches the search criteria, a message is displayed informing you that multiple matches were found. The softkeys then change to [Cancel] and [List Matches].
- 4 Press [Cancel] to return to the “User Selection” screen, or [List Matches] to see a list of the matching mailboxes (then go to step 5).
If a single matching mailbox is found, the session trace report is displayed (go to step 6).
- 5 On the “List user matching search” screen, use the arrow keys to move the cursor to the line with the mailbox you want to select and press the space bar. Then press [View] or [Print] to either display or print the session trace report for the selected mailbox.
- 6 Press [Next Record] to view the next session record, or follow step 7 to exit the tool.
- 7 Press [Exit] until the TOOLS menu reappears.

Chapter 10: Audit all volumes

When users delete large files or when many files are opened at the same time, enough disk space may not be freed up. System audits, which typically begin every morning at 1:30 a.m., make this space available. These overnight audits are sufficient for most normally loaded systems. However, if your system is heavily loaded and there is a lot of traffic, you may have to perform additional audits with this utility. If SEERs with the return code 1103 are being generated, this is an indication that the server is full and an audit is in order.

While the Audit All Volumes tool is running, the console will not accept any input. The audit will take from 1 to 10 minutes depending on the number of users on the system and the system size.

Procedure 10-1 **Auditing all volumes**

Starting point: The TOOLS menu

- 1 Select Audit all volumes, and press <Return>.

Auditing begins immediately. While the audit is running, the system displays messages telling you what volume is currently being audited. When all volumes have been audited, the system displays a message indicating that auditing is complete, and the TOOLS menu is redisplayed.

Note: While the Audit all volumes tool is running, the console will not accept any input.

10-2 Audit all volumes

Chapter 11: Rebalance directory

The organization directory is organized as a main index file with many secondary index files. The secondary files contain the actual entries for users. In terms of balance, the optimal situation is where each secondary index file contains 68 uniquely indexed entries. If many users are added at one time, the index files can become unbalanced.

The Rebalance directory tool rebalances the index files for the organization directory in order to speed up searches and updates to its entries. Note that while the rebalancing tool is running, the following administrative tasks and user-performed tasks cannot be executed:

- adding, changing, or deleting users, classes of service, customer groups, VSDNs, or voice services
- recording a personal verification for the first time. Rerecording a personal verification is allowed.
- fax item maintenance

Sites with Hospitality systems should run this tool immediately after the initial setup of the system. For most Hospitality systems, you should not have to run the rebalancing tool again. However, if the system administrator notices that access to the organization directory has slowed (for example, more than seven seconds to update the name of a guest, or logon sessions taking longer to initiate), then the rebalancing tool should be run again.

11-2 Rebalance directory

On non-Hospitality systems, it is a system default for the directory rebalance to run automatically every night (usually at 3:30 a.m.). No setup is required by the administrator. However, if many updates have been made to the directory, then it may help to run the tool during the day right after the updates are done. For example, if many users or voice services are added during the day and system performance decreases (for example, the system is noticeably slower as you attempt to add more users), then a directory rebalance may speed up the system. During the rebalancing, updates are disabled. SEER number 3135 will indicate when the rebalancing has started and stopped.

For Hospitality systems, the benefit of automatic nightly rebalancing is lost because the names are constantly changing as guests check in or out. As a result, the directory rebalancing is not run automatically every night on such systems.

Figure 11-1
Sample run (prompts and responses) for the Rebalance tool
(hospitality system)

Note: The screen below appears after “Rebalance directory” is selected from the TOOLS menu.

```
Organization directory rebalancing not currently running.
You are about to rebalance the organization directory.

The hospitality feature is installed on your system.
Guest check-ins and check-outs must not be processed during
rebalancing. Use the MMI to place the PMSI link (if not
a standalone system) in bypass mode and do not use the GAC
until the rebalancing is complete. Refer to the NTP for
details. Seers numbered 3135 will indicate when the
rebalancing begins and ends.

Do you wish to continue? Yes
Enter time limit (hrs) 2
Enter time limit (min) 0
Do the rebalancing? Yes
*SEER>03/11/93 09:58:41 ...
*3135 DR Audit Begun: [ ]

*SEER>03/11/93 10:40:18 ...
*3135 DR Audit Done ...
```

Note: *These lines include additional numbers and data not shown here. Also, SEERs are printed to the screen only if no printer is connected.

Procedure 11-1
Rebalancing the directory in a Hospitality system

Note: Hospitality is not available on MSM systems. See Procedure 11-2 for instructions on rebalancing systems that do not contain Hospitality.

Starting point: The TOOLS menu

- 1 Select Rebalance directory, and press <Return>.

The system displays some help text, followed by the prompt

Do you wish to continue?

Note 1: Run this tool when

- a) all the users and rooms have been added on a newly installed Hospitality system
- b) access to the organization directory is slow (for example, more than seven seconds to update the name of a guest)

Note 2: Before running this tool, first choose a period when the traffic in terms of check-ins and checkouts is low. Then, put the PMSI link into bypass mode, and instruct staff not to use the Guest Administration Console for check-ins, and so on, until the rebalancing is completed.

- 2 If you have satisfied the required conditions for running this tool (see step 1), then answer "Yes" and press <Return>. If you respond with "No", the rebalancing is not started and you are returned to the TOOLS menu.

If you respond with "Yes", the system prompts you for a time limit (first hours, and then minutes):

Enter time limit (hrs)

Enter time limit (min)

- 3 Enter a time limit (for example, 2 hours, 0 minutes) for the rebalancing to finish. Large systems (for example, 5 nodes, 8000 rooms) could take up to 12 hours or longer if no time limit is enforced. This time delay may hinder the normal operation of the hotel. The rebalancing usually takes less than one hour. The default for this tool is two hours.

If the rebalancing does not finish within the enforced time limit, rerun the rebalancing tool on successive days until it completes.

If the time limit is reached, a 3135 SEER with a timeout message is printed. The next time the rebalancing is run, it will start from the beginning again, but it will not have to redo the rebalancing already done. If the rebalancing does finish with no problems before the time limit is reached, a 3135 SEER with the message "DR audit completed" is printed.

- 4 After you set a time limit, the following prompt appears:

Do the rebalancing?

Enter "Yes" to begin the rebalancing. SEER 3135 will print once to indicate that the rebalancing ("DR Audit") has begun, and then once more to indicate that either the rebalancing has finished or the timeout limit has been reached.

Note: If you must stop a rebalancing in progress, reselect the Rebalance Directory utility from the TOOLS menu. It will offer you the option to stop. See Procedure 11-3 for more details.

- 5 After rebalancing, take the PMSI link out of bypass mode. If any check-ins or checkouts have taken place since the rebalancing started, then put the system into resynch mode, and run a database swap.
- 6 Following the database swap, take the system out of resynch mode to make the system fully operational.

Figure 11-2
Sample run (prompts and responses) for the Rebalance tool
(non-hospitality system)

Note: The screen below appears, after “Rebalance directory” is selected from the TOOLS menu.

```
Organization directory rebalancing not currently running.
You are about to rebalance the organization directory.

If you proceed, directory updates will be disabled until the
rebalancing is complete. Seers numbered 3135 will indicate
when the rebalancing begins and ends.

Do you wish to continue? Yes
Enter time limit (hrs) 2
Enter time limit (min) 0
Do the rebalancing? Yes
*SEER>03/11/93 09:58:41 ...
*3135 DR Audit Begun: [ ]

*SEER>03/11/93 10:40:18 ...
*3135 DR Audit Done ...
```

Note: *These lines include additional numbers and data not shown here. Also, SEERs are printed to the screen only if no printer is connected.

Procedure 11-2
Rebalancing the directory in a non-Hospitality system

Starting point: The TOOLS menu

- 1 Select Rebalance directory, and press <Return>.

The system displays some help text, followed by the prompt

Do you wish to continue?

Note: Run this tool when system performance slows down significantly while adding (or after adding) many users in one day. A rebalancing (once completed) will speed up the entry process, but you will not be able to add users while the rebalancing tool is still running.

- 2 If you have satisfied the required conditions for running this tool (see Step 1), then answer “Yes” and press return. If you respond with No, the rebalancing is not started and you are returned to the TOOLS menu.

If you respond with "Yes", the system prompts you for a time limit (first hours, and then minutes):

Enter time limit (hrs)

Enter time limit (min)

- 3 Enter a time limit (for example, 2 hours, 0 minutes) for the rebalancing to finish. Large systems (for example, 5 nodes) could take up to 12 hours or longer if no time limit is enforced. The rebalancing usually takes less than one hour. The default for this tool is two hours. The default for the automatic nightly rebalancing is three hours.

If the rebalancing does not finish within the enforced time limit, rerun the rebalancing tool.

If the time limit is reached, a 3135 SEER with a timeout message is printed. The next time the rebalancing is run (for example, using this tool or the automatic nightly rebalancing), it will start from the beginning again but it will not have to redo the rebalancing already done. If the rebalancing does finish with no problems before the time limit is reached, a 3135 SEER with the message "DR audit completed" is printed.

- 4 After you set a time limit, the following prompt appears:

Do the rebalancing?

Enter "Yes" to begin the rebalancing. SEER 3135 will print once to indicate that the rebalancing ("DR Audit") has begun, then, once more to indicate that either the rebalancing has finished or the timeout limit has been reached.

Note: If you must stop a rebalancing in progress, reselect the Rebalance Directory utility from the TOOLS menu. It will offer you the option to stop. See Procedure 11-3 for more details.

Procedure 11-3 Stopping the rebalancing process

Starting point: The TOOLS menu

- 1 Select Rebalance directory, and press <Return>.

If the rebalancing tool is already running, the system informs you of this and asks you if you wish to stop the rebalancing:

The directory is currently being rebalanced.

Do you wish to stop the rebalancing?

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- 2 Enter "Yes" to stop the rebalancing. The rebalancing tool will stop when it has finished the directory files it is currently rebalancing. If the rebalancing is not running (that is, the system prompts and messages are similar to those shown in Figure 11-1), then enter No to the prompt to indicate that you do not wish to continue.

Note: If you stop the rebalancing, the next time you run the rebalancing tool it will have to start again at the first directory file, but it will not have to redo the rebalancing already done. The work done so far is not wasted.

- 3 For Hospitality systems, after rebalancing, take the PMSI link out of bypass mode. If any check-ins or checkouts have taken place since the rebalancing started, then put the system into resynch mode, and run a database swap. Following the database swap, take the system out of resynch mode to make the system fully operational.

Chapter 12: COS conversion

The COS conversion tool allows you to assign users who have a personal Class of Service (COS) to a defined COS.

Users who are not part of a defined COS are given a COS labeled “Personal.” These users can be referred to as unassigned because they are not part of a defined COS. The mailbox attributes for users with a personal COS cannot be manipulated or revised as a group the way you can for users who are part of a defined COS. As a result, it is beneficial to assign users who have a personal COS to one of the defined COSs.

For complete details on Class of Service administration, please read the “Class of Service” chapter in the *System Administration Guide*.

Applications for the COS conversion tool

There are four basic reasons for running this tool.

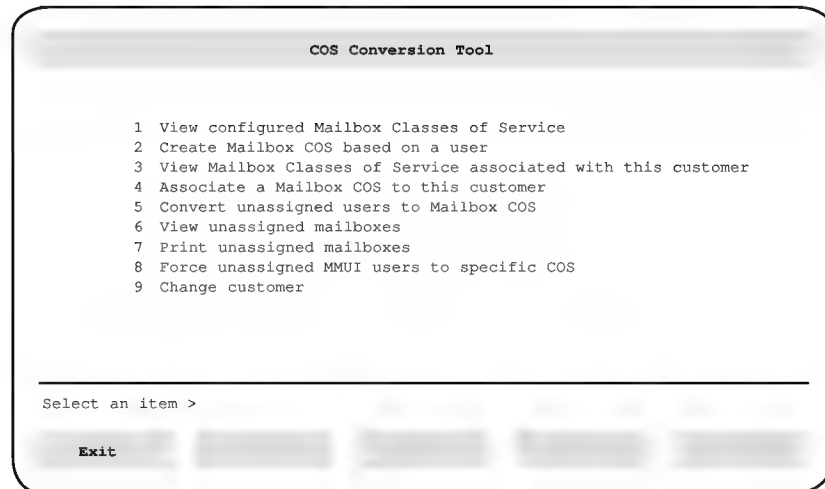
- 1 You have defined COSs on your system that your organization has determined are required to properly manage the users on your system. Now you want to quickly assign users to a defined COS that matches the users’ mailbox attributes.
- 2 You have started assigning users to the defined COSs (either using this tool or using the “Class of Service” facility described in the *System Administration Guide*). Now you want to finish the process by assigning the remaining unassigned users to a defined COS.

- 3 Your organization has no preset needs in terms of Class of Service groupings. All you want to do is create COSs that match the mailbox attributes already set up for most users so that you can group those users under a matching defined COS. As discussed, once you have your users assigned to a COS, their mailbox attributes can be modified as a group to suit the needs of your organization. This is the benefit of assigning users to a defined COS. See the “Class of Service” chapter in the *System Administration Guide* for details on modifying a COS.
- 4 You wish to assign all remaining personal COS users to a defined COS, whether or not they match one of the defined COSs. The “Force unassigned MMUI users to specific COS” option allows you to do this. This option is not available to VMUIF customers. This option is discussed in greater detail in the section “Force unassigned MMUI users to a specific COS” near the end of this chapter.

Accessing the tool

To access the COS conversion tool, select “COS conversion” from the TOOLS menu. On a multi-customer system, you are prompted for a customer group number. After you enter an existing customer group number, the COS conversion tool functions are listed in a menu (see Figure 12-1).

Figure 12-1
COS Conversion Tool menu



Steps for assigning COSs

Follow the steps below to assign a COS to currently unassigned users. If after following these steps, there are still unassigned users, you may wish to use the “Force unassigned MMUI users” option, which is described in the “Force unassigned MMUI users to a specific COS” section.

Note: If you have not yet defined any COSs, start at step 2.

Procedure 12-1 Assigning COSs

Starting point: The COS Conversion Tool menu

- 1 Select Convert unassigned users to Mailbox COS, and press <Return>.
This function searches for unassigned users and looks for a defined COS that exactly matches the user's mailbox attributes. If a match is found, the COS is assigned to the user. If some users are still unassigned, repeat this step.
- 2 Define new COSs, and assign (enable) the COSs to the appropriate customer groups. You can either use the “Class of Service” facility described in the *System Administration Guide*, or use this tool to create new COSs (see steps 3 to 5).
Note: If the maximum number of COSs allowed for a customer group (15 COSs) has already been associated with this customer, you may want to remove one or more unused or unnecessary COSs from the customer group (see the *System Administration Guide*). This will allow you to add a COS that may match some of the unassigned users.
- 3 Select View unassigned mailboxes, and press <Return>.
This option allows you to view unassigned users. Note the mailbox number of one or more users whose mailbox attributes you would like to use as the basis for a new COS.
- 4 Select Create Mailbox COS based on a user, and press <Return>.
This option allows you to create a COS based on an unassigned user you selected in step 3.
- 5 Select Associate a Mailbox COS to this customer, and press <Return>.
This option allows you to associate the newly created COS with the customer group you are working on. For single-customer systems, this would be customer 1.
- 6 Repeat this procedure.

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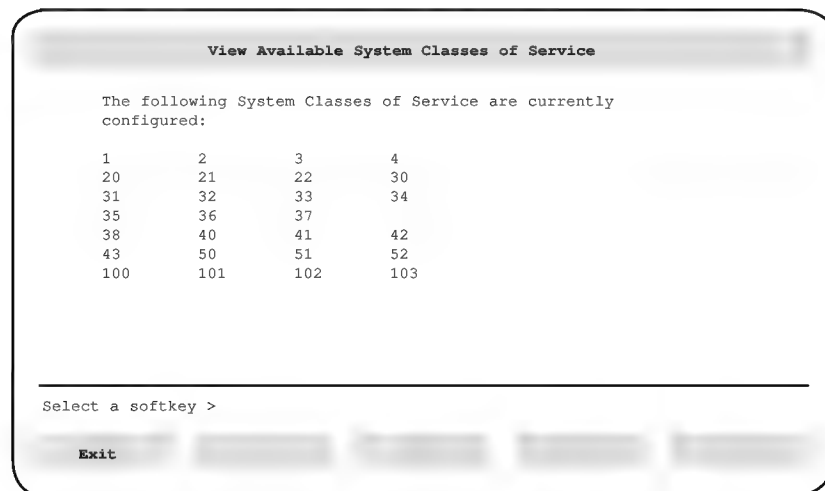
The COS conversion tool functions, including the menu items referred to in the procedure above, are described in the remainder of this chapter in the order that they appear in the COS Conversion Tool menu.

View configured mailbox classes of service

When you select item 1 from the COS Conversion Tool menu, the COS numbers for all the configured classes of service on your system are listed on the screen as shown in Figure 12-2. To see the classes that are available for a particular customer group, refer to the “View COS associated with this customer group” section.

Note: On a single-customer system, a maximum of 15 classes of service may be defined, while on a multi-customer system, a maximum of 127 classes of service may be defined, but only 15 can be associated with one customer at one time.

Figure 12-2
View configured mailbox classes of service



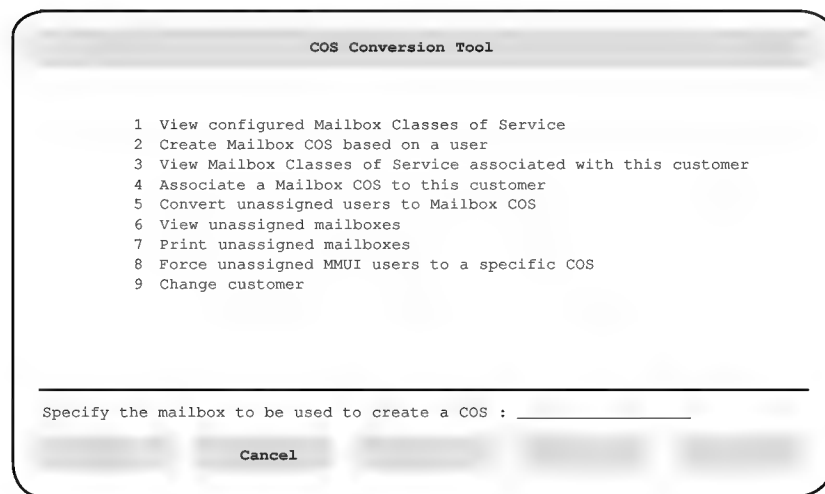
Create a COS based on one user's mailbox

This option allows you to use one user's mailbox attributes as the basis for a new COS. One situation where you might want to use this option is if you know that several mailboxes have the same attributes. Use this option to create a new COS that is based on one of these mailboxes. When you run

the convert unassigned users function, all the mailboxes that match the new COS will be assigned to that COS. Another use for this option is to use existing mailboxes to quickly create a COS rather than using the Class of Service Administration screens and keying in all the required data.

An example of the COS Conversion Tool menu with the “Specify the mailbox” prompt is shown in Figure 12-3.

Figure 12-3
Create a COS based on a user



Procedure 12-2
Creating a COS based on a user

Starting point: The COS Conversion Tool menu

- 1 Select Create Mailbox COS based on a user, and press <Return>.

A prompt appears at the bottom of the screen asking for the mailbox number that will be the basis for the new COS:

Specify the mailbox to be used to create a COS:
- 2 To specify a mailbox number, go to step 2a. To cancel, go to step 2b.
 - a. Enter a valid mailbox number and press <Return>.

A new COS is created. A confirmation message is displayed indicating what number has been assigned to the new COS. For

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example

COS 5 has been created.

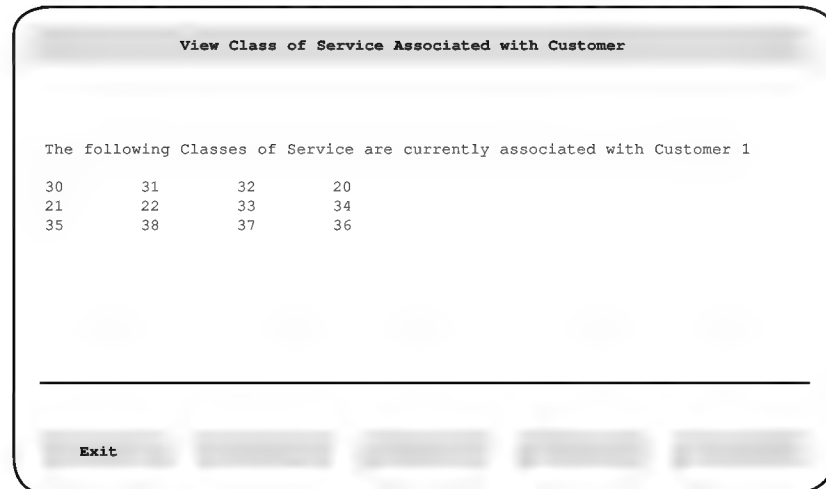
- b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.

View COSs associated with this customer

When you select this item from the COS Conversion Tool menu, all the COSs that are available for this customer group are displayed as shown in Figure 12-4.

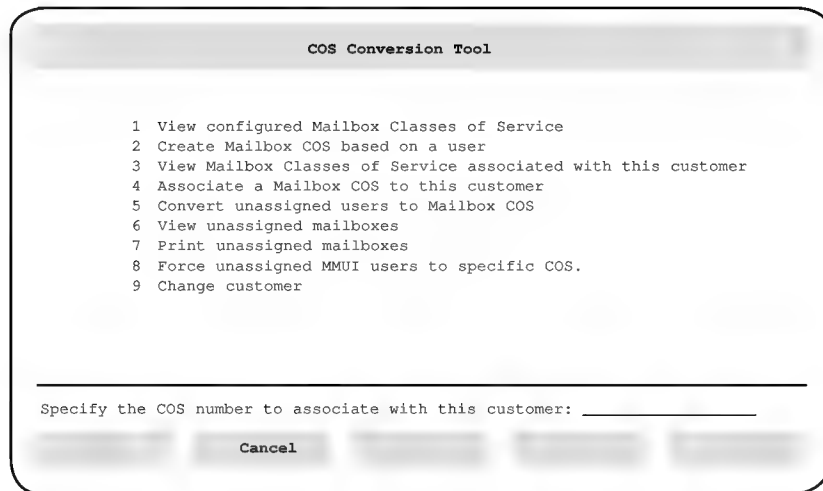
Figure 12-4
View Mailbox Classes of Service associated with this customer



Associate a COS with this customer

A maximum of 15 COSs can be assigned to a customer group. If you do not have 15 COSs already assigned to the customer you are working on, you can add a COS to this customer's list of available COSs by selecting item 4 from the COS Conversion Tool menu (see Figure 12-5).

Figure 12-5
Associate a COS with this customer



The screenshot shows a terminal window titled "COS Conversion Tool". It contains a numbered list of nine options. At the bottom, there is a prompt "Specify the COS number to associate with this customer:" followed by a blank line. Below the prompt are several buttons, with the "Cancel" button clearly visible.

```
COS Conversion Tool

1 View configured Mailbox Classes of Service
2 Create Mailbox COS based on a user
3 View Mailbox Classes of Service associated with this customer
4 Associate a Mailbox COS to this customer
5 Convert unassigned users to Mailbox COS
6 View unassigned mailboxes
7 Print unassigned mailboxes
8 Force unassigned MMUI users to specific COS.
9 Change customer

Specify the COS number to associate with this customer: _____

Cancel
```

Procedure 12-3
Associating a COS with the customer

Starting point: The COS Conversion Tool menu

- 1 Select Associate a Mailbox COS to this customer, and press <Return>.

The following prompt appears at the bottom of the screen:

Specify the COS number to associate with this customer:

- 2 To specify a COS number, go to step 2a. To cancel, go to step 2b.

- a. Enter a valid COS number and press <Return>.

A confirmation message is displayed indicating that the COS number has been associated with the customer group that you are currently working on.

- b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.

Convert unassigned users to a matching COS

This option from the COS Conversion Toolmenu assigns users who currently have a personal COS to one of the configured COSs that is associated with the customer group and that match the user's mailbox attributes. The user's mailbox attributes must match a COS exactly in order to be assigned to that COS. Some mailboxes will not match any of the available COSs and will not be assigned. The screen display that appears when you select this function is shown in Figure 12-6 (shown how it appears during the conversion process).

Figure 12-6
Convert unassigned users to a defined COS

Class of Service Conversion

Status: COS conversion in progress.

COS Number	Number of users with this COS	Cos Number	Number of users with this COS
30	4	31	1
32	25	20	2
21	0	22	0
33	0	34	0
35	0	36	0
37	0	38	0

Number of users that could not be assigned to COS: 22
Number of users assigned in this run: 16

Select a softkey >

STOP
Conversion

[Faint button]

[Faint button]

[Faint button]

The following information is displayed:

- **COS Number** These are the numbers for the COSs associated with this customer. These numbers do not change.
- **Number of users with this COS** This is the number of users currently assigned to the corresponding COS number to the left. The numbers in this column are updated periodically as the tool reads in users. This column essentially counts the number of users assigned to each COS.

When the tool reads in a user with a personal COS, it searches for a matching COS and, if one is found, the user is assigned to that COS. The “Number of users with this COS” column is then updated.

To stop the conversion process, press [STOP Conversion]. This stops the conversion at the last personal COS user record read. Once the conversion is completed, this softkey selection disappears and you can press [Exit] to return to the COS Conversion Toolmenu.

The result of the conversion is shown in the two lines at the bottom of the screen: namely, the number of users that could not be assigned (no matching COS found), and the number of users assigned to a COS during this run (matching COSs found for this number of users). At the end of the run, the “Number of users with this COS” column shows the total number of users within this customer group that have been assigned to a COS, including those users assigned during this conversion run.

Convert unassigned users on a Hospitality system

On a Hospitality system, the Convert users option functions slightly differently:

- Guest users with a personal COS are not converted to a defined COS. These guest users are counted among the guest users unassigned (see the last line of the screen example in Figure 12-7).
- Guest users that were already assigned a COS are counted in the “Number of users with this COS” column.
- Staff users are treated the same as users on a non-Hospitality system. If they have a personal COS but their mailbox attributes match those of an available COS for the customer group, then they are assigned to the matching COS.
- The status lines at the bottom of the screen display are different:
 - “Number of staff users that could not be assigned to COS” applies only to staff users.
 - “Number of users assigned in this run” also applies only to staff users.
 - “Number of guest users (unassigned)” is the number of guest users with a personal COS.

The screen display that appears on Hospitality systems is shown in Figure 12-7. As in the non-Hospitality system, the [STOP Conversion] softkey stops the process. Any users assigned up to the point where you used the [STOP Conversion] softkey stay assigned.

Figure 12-7
Convert unassigned users to a defined COS on a Hospitality system

Class of Service Conversion

Status: COS conversion in progress.

COS Number	Number of users with this COS	Cos Number	Number of users with this COS
30	4	31	1
32	25	20	2
21	0	22	0
33	0	34	0
35	0	36	0
37	0	38	0

Number of staff users that could not be assigned to COS: 1
 Number of users assigned in this run: 21
 Number of guest users (unassigned): 127

Select a softkey >

STOP Conversion

View users who are not assigned to a COS

When you select this option from the COS Conversion Toolmenu, all users (in the customer group you are working on) who are not assigned to a COS are listed (user's name and mailbox number). An example display is shown in Figure 12-8.

Note 1: If your system has more than one user volume, users will be sorted alphabetically by user volume instead of strictly alphabetically.

Note 2: If the customer group being searched is a Hospitality customer, guest users with nothing entered for the name fields will be listed after users with name data.

Figure 12-8
View unassigned mailboxes

View Users Not Assigned to Classes of Service	
User name	Mailbox Number
Broderick, John	2344
Carlyle, Joan	4096
Crusher, Wesley	8967
Davis, Jefferson	5491
Ellis, Dave	3566
Fong, Linda	6567
Gilmour, David	4326
Grant, Doug	5238
Hassan, Semareh	9876
Lee, Robert	3456
Sheppard, Marcus	3467
Sullivan, Mary	3278
Smith, John	4367
Select a softkey >	
Exit	*Next Page

Note: *Appears when the information fills more than one screen.

Print users who are not assigned to a COS

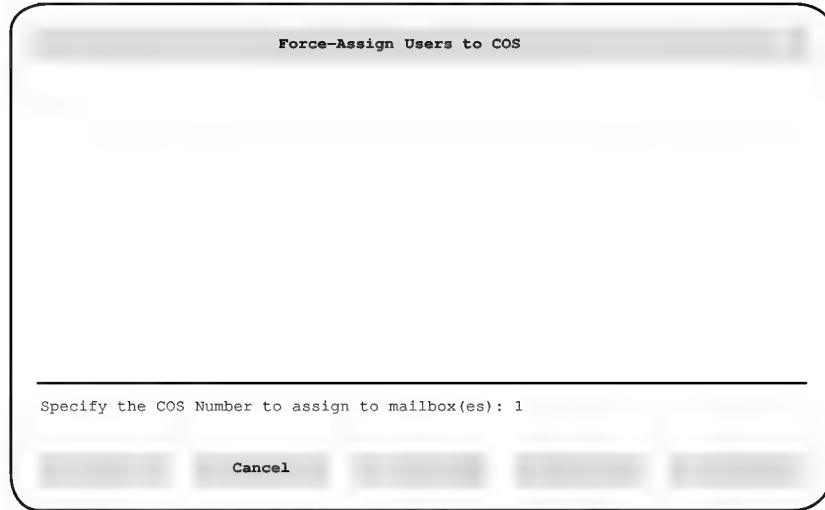
When you select item 7 from the COS Conversion Toolmenu, all users who are not assigned to a COS are printed (user's name and mailbox number). Before the printing begins, the softkeys [Cancel Printing] and [Continue Printing] are displayed. Select [Continue Printing] to start the print job. Select [Cancel Printing] to cancel the print user's request or to interrupt the printing at any point.

Force unassigned MMUI users to a specific COS

Item 8 from the COS Conversion Toolmenu allows you to force the assignment of users who have a personal COS to one of the defined COSs associated with the customer group, regardless of the user's current mailbox attributes. This allows you to clean up any personal COS users left after running the conversion (see the section entitled "Convert unassigned users to a matching COS"). This will leave the customer with no personal COS users. However, the newly assigned users will experience mailbox attribute changes if their mailbox attributes did not already match the attributes of the selected COS. The initial screen display that appears when you select this function is shown in Figure 12-9.

Note: This option is *not* available to customers with the VMUIF feature. All Hospitality customers have the MMUI feature by default.

Figure 12-9
Force unassigned users to a COS—initial screen



Force-Assign Users to COS

Specify the COS Number to assign to mailbox(es): 1

Cancel

Procedure 12-4
Forcing unassigned COS users to a COS

Starting point: The COS Conversion Tool menu

- 1 Select Force unassigned MMUI users to specific COS, and press <Return>.
The Force-Assign Users to COS screen is displayed, and a prompt appears at the bottom of the screen asking for the COS number to assign:
Specify the COS number to assign to mailbox(es):

- 2 To specify a COS number, go to step 2a. To cancel, go to step 2b.
 - a. Enter a valid COS number and press <Return>.

A new softkey, [Continue], is displayed, along with the following message:

CAUTION: The command you have selected will force assign every Personal COS user in customer 2 to COS 1

Hit the appropriate softkey to cancel or continue.

Go to step 3.
 - b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.
- 3 To confirm that you want to continue, go to step 3a. To cancel, go to step 3b.
 - a. Press [Continue].

The conversion process begins. See Figure 12-10 for a conversion example on a non-Hospitality system. See Figure 12-11 for a conversion example on a Hospitality system. Go to step 4.
 - b. Press [Cancel].

You are returned to the COS Conversion Toolmenu and no change is made.
- 4 Once the conversion is completed, press [Exit] to return to the COS Conversion Toolmenu. You can press [STOP Force-Assign] while the conversion is running to stop the conversion at the last personal COS user record read.

Figure 12-10
Force unassigned users to a COS on a non-Hospitality system

Force-Assign Users to COS

Status: Force-Assign in progress.

COS Number	Number of users with this COS	Cos Number	Number of users with this COS
1	33	2	4
3	2	4	2
5	5	6	11
7	7	8	6

Number of users assigned in this run: 32

Select a softkey >

STOP

Force-Assign

[Faint]

[Faint]

[Faint]

Figure 12-11
Force unassigned users to a COS on a Hospitality system

Force-Assign Users to COS

Status: Force-Assign in progress.

COS Number	Number of users with this COS	Cos Number	Number of users with this COS
1	33	2	4
3	2	4	2
5	5	6	11
7	7	8	6

Number of users assigned in this run: 13
Number of guest users unassigned: 11

Select a softkey >

STOP

Force-Assign

[Faint]

[Faint]

[Faint]

The number of users assigned to the specified COS is shown at the bottom of the screen (Number of users assigned in this run).

For Hospitality systems, the “Number of guest users (unassigned)” field at the bottom of the screen shows the number of personal COS guest users that still remain in this customer. They are exempt from being assigned a COS using “Force unassigned users,” just as they are exempt from the normal COS Convert procedure.

Change customer

This option appears only on multi-customer systems. This function allows you to switch to a different customer group.

Procedure 12-5 **Changing customer**

Starting point: The COS Conversion Tool menu

- 1 Select Change customer, and press <Return>.
A prompt appears at the bottom of the screen asking for the number of the new customer group:
`Please specify customer:`
- 2 To specify a customer number, go to step 2a. To cancel, go to step 2b.
 - a. Enter a valid customer number and press <Return>.
The customer group you are working on is switched to the customer specified by the new number.
 - b. Press [Cancel].
The COS Conversion Tool screen is redisplayed.

Chapter 13: Display system record

The Display system record tool identifies the installed features, number of recording (storage) hours, and disk sizes on your system, among other items. This information is required when filling out a Site Profile form.

When you select this tool from the TOOLS menu, the system record display appears (see Figure 13-1). The display indicates if a feature has been purchased with a Yes or No listed beside the feature name.

Note: The customer name listed by this tool is the customer name used during installation. The customer name may have been modified since then.

You will be asked if you want to view the disk information. If you select Yes, the sizes of all disks installed on the system will be displayed. Please note, there is a delay of approximately a minute from the time Yes is selected until the information is displayed.

Figure 13-1
System record display

```

1: Customer Name      :      ABC Company
2: Original Serial Number <number>: 00000014
3: Platform          : Modular Option
4: Hours on System   : 54           5: Release Number       : 12.10
6: Number Of Nodes    : 2           7: Max allowed Language  : 2
10: Minimum Multi Media : 4        11: Voice Channels       : 16
12: Physical Channels  : 24        13: SMDI Link           : No
14: Meridian ACCESS    : No        15: AdminPlus           : Yes
16: AMIS              : No        17: Hospitality         : No
18: Networking         : No        19: NMS                 : No
20: Outcalling         : Yes       21: Voice Forms         : Yes
22: VMUIF              : No        23: Multi ADMIN         : Yes
24: Meridian Connections : No      25: Multi SMDI          : No
26: Multi Customer     : Yes       27: Dual Language Prompting : No
28: Voice Menus        : Yes       29: FAX On Demand       : Yes
30: Central Call Answer : No      31: Integrated Auto Admin : Yes
32: Meridian Mail AutoAdmin: Yes
33: Maximum NMS Locations : 0
34: Keycode            : 3a89 5dfa b778 0a8f 20cd

*Do you want to view the disk information? Yes
Please wait ...

Disk Information:
      Primary Disk      Shadow Disk
Node  Size(MB)  SCSI ID  Size(MB)  SCSI ID  Status
1      639      0      ---      ---      Primary Active
2      312      0      ---      ---      Primary Active
Press RETURN to continue:

```

Note: *After you select yes and press <Return>, the system may take up to three minutes to refresh the screen and display the additional information.

Most of the fields are self-explanatory. A few of the fields which may not be self-explanatory are described below.

- **8: Full Service** This is the maximum number of full service channels allowed on your system. This number is defined in your system's keycode and reflects how many full service channels were purchased with your system.
- **9: Basic Service** This is the number of basic service channels initially installed on your system. You can reduce or increase the number of basic service channels using the Channel Allocation Table (see "System Status and Maintenance" chapter in the *System Administration Guide*).

- **10: Multi Media** This is the minimum number of multimedia ports that must be configured on your system. This number is defined in your system's keycode and reflects how many multimedia channels were purchased with your system.
- **11: Voice Channels** The maximum number of voice channels installed on your system. This number is defined in your system's keycode and reflects how many voice channels were purchased with your system.
- **15: AdminPlus** This optional feature of Meridian Mail enables the Meridian Mail Reporter software package to collect detailed accounting and billing operational measurements (OM) data for users. Refer to *Meridian Mail General Description* (NTP 555-7001-100).
- **32: Keycode** The code used during the software configuration procedure that defines your system and the purchased features. Refer to the *System Installation and Modification Guide* (NTP 555-7001-215) for more information.

In addition, when you select Yes to view the disk information and press <Return>, the tool displays information about the disks on each node.

Note: The system may take up to three minutes to refresh the screen and display the disk information after you select Yes and press <Return>.

The following information is displayed after you press <Return>:

- disk size and SCSI ID of the primary disk
- disk size and SCSI ID of the shadow disk (if this is a shadowed system)
- status of the disk, which will be one of the following:
 - **Primary Active** The primary disk is active. If this is a shadowed system, this means that there is a problem with the shadow disk, or that the shadow disk is not synchronized properly.
 - **Shadow Active** The shadow disk is active. This means that there is a problem with the primary disk, or that the primary disk is not synchronized properly.
 - **Disks Shadowed** The primary disk is shadowed and synchronized.
 - **No Disk** There is no physical disk in that node.

13-4 Display system record

Chapter 14: Universal Link Message Analyzer (ULMA)

The universal link message analyzer (ULMA) is a monitoring tool designed to monitor the following links:

- ACCESS
- AdminPlus
- AML
- PMSI
- SMDI
- T1
- MSLink

Its purpose is to capture the transferred data, and to assist in debugging configuration problems. It allows Meridian Mail specialists to monitor information remotely via modems, and in some cases may eliminate the need to use a protocol analyzer. It is, however, not a replacement of a protocol analyzer.

Feature limitations

The following is a list of feature limitations:

- Only one link can be monitored within each link monitor at a time, but multiple links can be monitored simultaneously with separate instances of the link monitor.
- Real-time output to the console is limited by baud rate as described in the table below.

Table 14-1
Allowable baud rates

	Allowable baud rates				
ACCESS	n/a	4800	9600	19 200	38 400
AdminPlus	2400	4800	9600	n/a	n/a
AML	2400	4800	9600	n/a	n/a
PMSI	2400	4800	9600	n/a	n/a
SMDI	2400	4800	9600	n/a	n/a
T1	2400	4800	9600	n/a	n/a
MSLink	2400	4800	9600	19 200	38 400

- Light load conditions are advisable, otherwise not all received messages will be displayed. The log files will, however, catch all the transmitted information.
- Only one log file per link is allowed. This should be sufficient because an append option is provided which allows more than one log session to be logged into the log file.
- Setting a view string filter may have serious performance impact on log viewing if the specified string has a low occurrence rate within the logged messages. It takes approximately 30 seconds to search every 1000 messages.
- Scrollback is not provided in view/capture link messages screen.
- ULMA does work with high traffic links when the data is routed to files less than 1 Mbyte. ULMA has a limitation when logging data on high traffic links to very large files (greater than 1 Mbyte) and will lose some of the messages. Message loss occurs on heavily loaded AML links and ACCESS links. It is not expected to be a problem for SMDI, PMSI, or T1 links based on lab results.
- There is no single means to list all current log files, other than by invoking each link monitor.

Using ULMA

The Universal Link Monitor can be accessed from the ETAS Level Menu. (ULMA is also available at the TOOLS level, however, the AML link cannot be monitored from there.) At the ETAS level, all supported links can be monitored. Each time ULMA is selected it is forked into a separate window. This allows multiple links to be monitored at the same time using more instances of the Link Monitor.

Note: The maximum number of Link Monitors that can be running simultaneously depends only on the available resources.

Procedure 14-1 Using ULMA

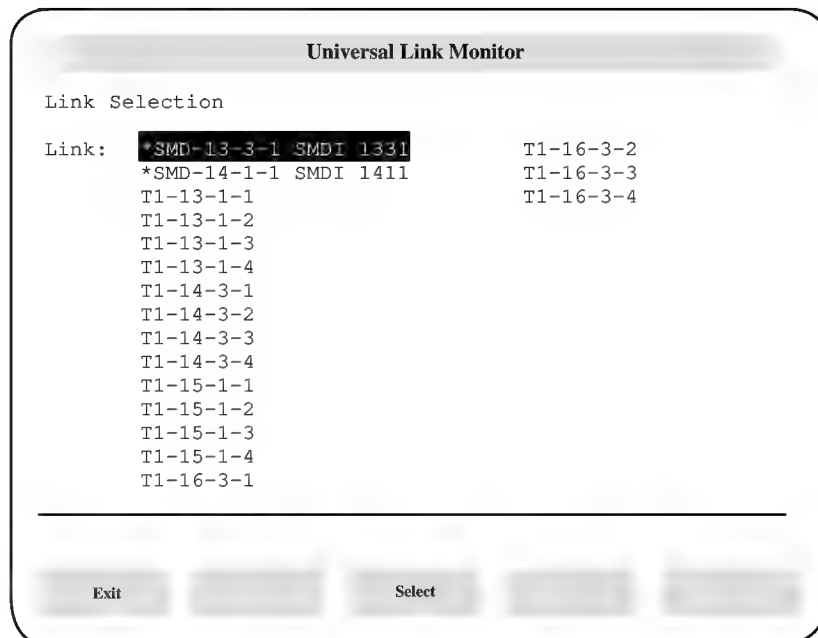
Starting point: ETAS main menu

- 1 Select ULMA from the menu.
The Link Selection screen is displayed. See Figure 14-1.
- 2 Position the cursor beside the link you want to monitor.
- 3 Highlight the link.
- 4 Press [Select].
The Universal Link Monitor Menu appears. See Figure 14-2.

Link Selection screen

The Link Selection screen allows the user to select a particular link to monitor. All supported links found on the system will be displayed. Once a link is selected, the Universal Link Monitor Menu appears as shown in Figure 14-2 .

Figure 14-1
Link Selection screen



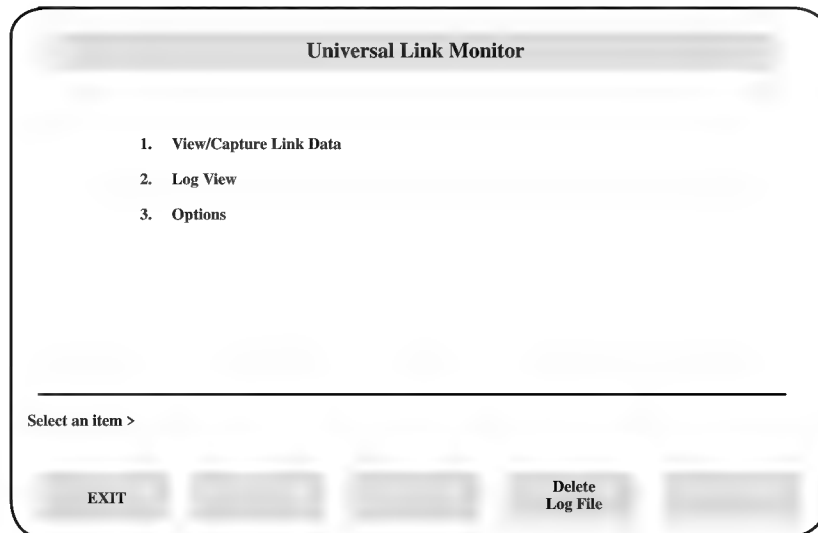
The following softkeys are available:

- **Exit** Terminates the Universal Link Monitor screen and removes its window.
- **Select** Selects the link that is currently highlighted and enters the Universal Link Monitor Menu. An on screen message indicates whether the selected link is down (the link is not responding), or already in use by another Link Monitor instance (The link is already being monitored by another Link Monitor). If the link is down, you will need to select another link.

Universal Link Monitor menu

This menu provides access to link monitoring, log file viewing, and option setting. Once you have selected a link, the Universal Link Monitor menu appears as shown in Figure 14-2. ULMA is forked into its own window so you can always go back to the MMI by pressing <Control>-<W>.

Figure 14-2
Universal Link Monitor menu



The following options are available:

- **View/Capture Link Data** Enters the “View/Capture Link Data” screen where link messages will be displayed in real-time and can be captured to a log file.
- **Log View** Enters the “Log View” screen where link messages previously captured into a log file can be viewed, searched for, and printed.
- **Options** Enters the “Options” screen where log file related options and other monitoring options can be set.

The following softkeys are available:

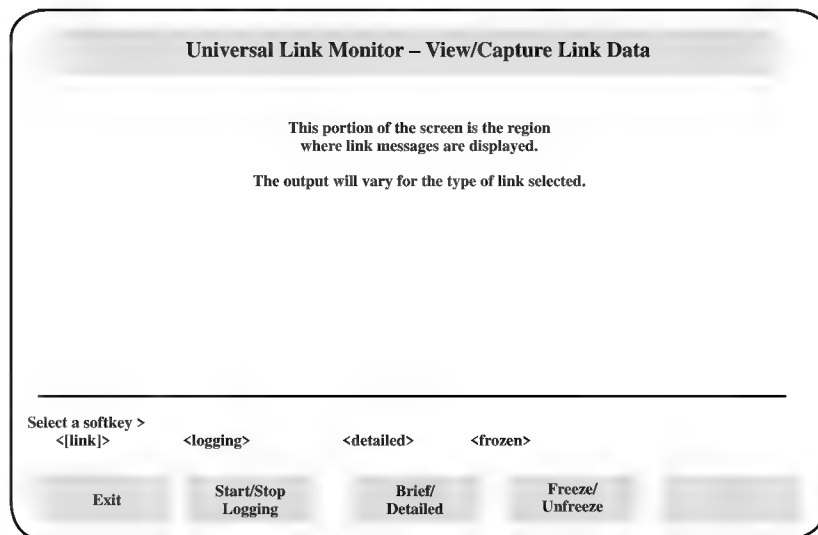
- **Exit** Terminates the Universal Link Monitor menu session and returns you to the Link Selection screen.

- **Delete Log File** Delete the existing log file for the currently selected link. If a log file doesn't exist for the link, the softkey will not be shown.

The View/Capture Link Data screen

This screen allows you to view link messages in real time and captures them if desired. The link messages can be displayed either in brief or detailed format. Once you select the View/Capture Link Data option from the Universal Monitor Menu, the View/Capture Link Data screen appears as shown in Figure 14-3.

Figure 14-3
View/Capture Link Data screen



On this screen <[link]> denotes where the currently selected link name and hardware TN appears. This value is composed of the link type name and link hardware location. In addition to the <[link]> status item, three other items appear namely <logging>, <detailed>, and <frozen>. These items will always appear regardless of the link type.

- **<[link]>** The currently selected link name and hardware TN. The format is the link type name, followed by a hyphen (-), followed by the link hardware location (node #-card #-port #).

- **<logging>** This status item appears if logging is in progress. This status may be changed by using the [Start/Stop Logging] softkey. Initially logging is not active and the <not logging> status item appears.
- **<detailed>** This status item indicates whether the detailed message output format is active which means that all message information is visible. This status may be changed by using the [Brief/Detailed] softkey. The default mode is <brief> which means messages are displayed in a one line per message format.
- **<frozen>** This status item indicates that the display does not show any new link messages and the scrollbar is disabled. This status may be changed by pressing the [Freeze/Unfreeze] softkey. The default mode is <viewing>.

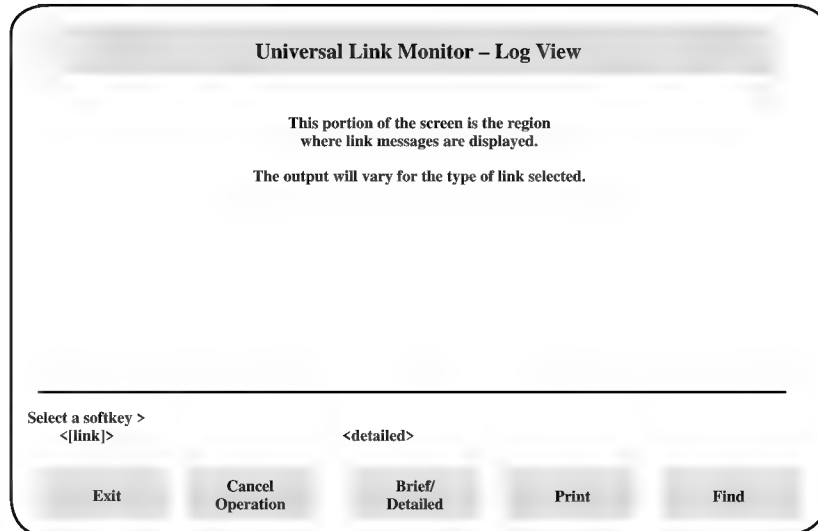
The following softkeys are available:

- **Start/Stop Logging** Toggles the log to disk process.
- **Brief/Detailed** Toggles between the brief and detailed output formats.
- **Freeze/Unfreeze** Toggles displaying of new messages on the screen. When the display is unfrozen, messages that occur while frozen will not appear on the screen.
- **Exit** Return to the Universal Link Monitor menu. If link message capturing was in progress, it is stopped.

The Log View screen

This screen allows you to view and print previously logged link messages. When the Log View screen option is entered, messages from the beginning of the log file are displayed. You can then scroll through the messages, search for a specified message, or print a sequence of messages. The output format can also be specified.

Figure 14-4
Log View screen



Notice that in addition to the <[link]> status item one other item appears namely <detailed>. These items will always appear regardless of the link type. If there are more messages than the screen can accommodate, you can move up or down one screen at a time, by pressing the up and down arrow keys.

- **<[link]>** The currently selected link name and hardware TN. The format is the link type name, followed by a hyphen (-), followed by the link hardware location (node #-card #-port #).
- **<detailed>** This status item indicates whether the detailed message output format is active which means that all message information is visible. This status may be changed by using the [Brief/Detailed] softkey. The default mode is <brief> which means messages are displayed in a one line per message format.

The following softkeys are available:

- **Cancel Operation** Cancels the previous or next page and Find log repositioning operations if they are in progress.
- **Brief/Detailed** Toggles between the brief and detailed output formats.

- **Print** Prints a specified number of link messages to the printer or screen.
- **Find** Searches for a string within the link messages.
- **Exit** Returns to the Universal Link Monitor menu.

Log View screen-Print option

The Print option is selected from the Log View screen via the [Print] softkey. You are then prompted for the number of messages to print starting from the message displayed at the top of the screen. Once printing is completed or interrupted, log viewing is resumed.

If you want to print, press the [Print] softkey and enter the number of messages to be printed at the “Number of Messages to Print” prompt. (The range is from 1 to 99 999 and the default is 100.)

The following softkeys are available:

- **Cancel** Cancels the selected print operation and returns you back to log viewing.
- **Print to Console** Prints the entered number of messages to the ULMA display in a continuous mode.
- **Print to Printer** Prints the entered number of messages to the SEER, or reports, printer. While printing is in progress, access to other link monitors or MMI is not possible.

You can cancel printing at any time.

Log View screen-Find option

The Find option allows you to search for a specific string within a log message. This is useful because searching for a specific time, message type, DN number, or direction can be done. Once the find operation is completed log viewing is resumed at the “found” position in the log.

If you want to find a string, press the [Find] softkey and enter the search string at the “Search Expression” prompt. Case does not matter.

Search expressions can be built up using the following three logical operators:

- the exclamation mark (!) which means “not”
- the ampersand (&) which means “and”

14-10 Universal Link Message Analyzer (ULMA)

- the vertical bar (|) which means “or”

For example, on an AML system, you can search for everything except the poll messages with the search string “!poll”. You can search for time requests with the string “time & request”.

The following softkeys are available:

- **Find** Begins the search. The search can also be started by pressing the <Return> key.
- **Cancel Operation** Cancels the selected find operation and returns you back to log viewing at the interrupted search position.

The Options screen

The Options screen allows you to set log file related options and other monitoring options.

Figure 14-5
Options screen

Universal Link Monitor

Options

Space Available (kB) : 11076

Log File Size (kB) : 100

View Filter Expression : _____

Select a softkey >

Save Cancel _____

The following status fields are displayed:

- **Space Available** Read-only field. It shows the amount of free space on the volume where the log files are stored.

- **Log File Size** Specifies the maximum size that the log file can be. Once this file size is reached and logging continues, the oldest logged messages are deleted as new ones are logged.
The file size can range from 10 Kbytes to 4500 Kbytes with a default value of 100 Kbytes.
- **View Filter Expression** Specifies the string filter to be used when viewing messages. If a string is specified in this field, only link messages containing that string will be shown during a real-time or log view sessions. The string can contain the same logical operators as for log file searching: the exclamation mark (!) meaning “not,” the ampersand (&) meaning “and,” and the vertical bar (|) meaning “or.” For example, AML poll messages can be suppressed with the string “!POLL”.
The view filter expression is empty by default and can be a maximum of 40 characters.

The following softkeys are available:

- **Save** Stores the newly selected options for further capture operations. The changes are, however, not permanent. They will be reset to their defaults once the program is exited and reentered.
- **Cancel** Discards any changes made to the options, and sets them back to what they were prior to entering the Options menu.

Link messages

The following list outlines the various link messages which are displayed in the brief output format:

- **Timestamp area** Title line contains the date portion of the timestamp. Each message contains its log time which is accurate to centiseconds.
- **Delta time difference** Title line contains the time difference (TDiff) area. Each message contains a delta time difference corresponding to the time taken to send the message. This area is PMSI specific.
- **Message direction area** Title line shows the names of devices connected to the link (for example MM, PBX etc). The PMSI link shows three devices. Each link message contains an arrow indicating the direction of flow between any two devices. In AML, SMDI and TI links, this area also contains the message type. This area contains the API names for ACCESS, ADMINPlus, and MSLink.

14-12 Universal Link Message Analyzer (ULMA)

- **Error Area** Title line labels the Error area. Any errors detected in the message will be shown here. This area is PMSI specific.
- **Data area** Title line labels the Data area. Any additional message data is shown here.

The following is a list of messages which appear in the detailed message output format:

- **First line** This line consists of a timestamp, log date, message direction and message type (or API name).
- **Date line** This line is available for some of the links and contain the same information as the data area in brief message format.
- **Raw data line** Raw message dump allows you to view the entire message in a raw format.
- **Last line** This line gives a detailed description of the message function.

Chapter 15: Change local site ID

The Change local site ID tool can only be used if you have Networking installed on your system (although the option will show up in the TOOLS menu even if it is not installed). It allows the administrator to change the local site ID (if, for example, it was entered incorrectly when the site was defined).

The site ID you specify must already be defined as a remote site. You will, therefore, have to create a dummy remote site using Networking Administration (described in the *Meridian Networking Installation and Administration Guide* [NTP 555-7001-244], the *Virtual Node AMIS Networking Installation and Administration Guide* [NTP 555-7001-245], or the *Enterprise Networking Installation and Administration Guide* [NTP 555-7001-246]) before using this tool. The tool will redefine the current local site as a remote site, and the remote (dummy) site as the local site.

Modifying the local site ID

You may need to change the local site ID if, for example, you entered it incorrectly when you defined the site.

ATTENTION

Do not change the local site ID unless it conflicts with another site in the network.

15-2 Change local site ID

What to do before you begin

If you need to change your local site ID, there are a number of things you must do:

- Print out the local site information.
- List the remote site IDs to make sure that no other site has the same ID number you plan to use. See the *Networking Installation and Administration* guides for details.
- Add a remote (dummy) site with the site ID you have chosen. See *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246) for details.
- Enter anything you want in the rest of the fields for the remote (dummy) site via the Add Site screen. It is not important what you add at this time.

ATTENTION

Be certain that no networking messages are queued, and that all other sites disable networking messages to this site.

- Perform the site ID change using Procedure 15-1.

Figure 15-1
Change Local Site ID screen

Special Tools Package
TOOLS Level Access
System/Feature Dependent Tools

1 Change local site ID - set the site ID to a new value

Please enter the site ID of the remote site you want to be a local site>

Note: Other tools may also be listed here depending on your system type or what features are installed.

Changing the local site ID

Use the following procedure to change your local site ID.

Procedure 15-1 Changing the local site ID

Starting point: The TOOLS menu

- 1 Select Other and press <Return>.
- 2 Select Change local site ID and press <Return>.
The system displays the Change Local Site ID screen and prompts you to enter the ID of the remote (dummy) site that you added earlier. This ID will identify the new local site.
- 3 Enter the site ID and press <Return>.
The system changes the site ID. The dummy remote site is converted to the new local site, and the old local site is converted to the remote site.

Note: You can press [Cancel] to remove the selection.

15-4 Change local site ID

- 4** Display the Remote Site Maintenance – List Sites screen and delete the site with the old local site ID. See the *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246) for details.
- 5** Modify your new local site. Replace all the fields with the correct values for the local site from the original local site printout. See the *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246) for details.
- 6** Inform the administrators at the other sites of the change.

Chapter 16: Configure GACs

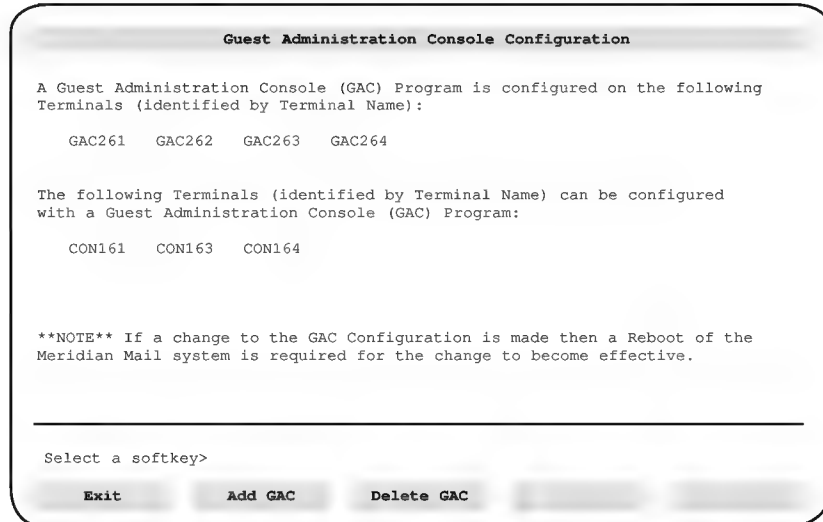
Note: This tool is available only on those systems with Hospitality Voice Services (HVS).

The Guest Administration Console (GAC) configuration tool allows you to view or change the number of Guest Administration Consoles (see Figure 16-1). The tool lists the currently configured GAC programs and terminal data ports, and provides the means to add or delete a GAC on an appropriately equipped terminal.

This tool requires about 160 Kbytes of memory. If you do not have enough memory available, disable the last voice card on node 1. To disable the voice card, go to the System Status and Maintenance menu, select the Card Status option, highlight the card you want to disable, and press the [Disable Card] softkey. For more information, see the “System Status and Maintenance” chapter in the *System Administration Guide*.

Note: To change the GAC Dataport speed, refer to Chapter 4, Procedure 4-8, “Setting parameters for the terminal data port.”

Figure 16-1
The Guest Administration Console Configuration screen



Procedure 16-1
Adding a GAC

Starting point: The TOOLS menu

Note 1: If there are no available terminal ports, an existing unused data port must be configured using the hw_modify tool. Change the data type of the data port to hd_termdata so that the data port can be used for GAC. No more than four Guest Administration Terminals should be installed on a system, and no more than two should be installed on Node 1.

Note 2: Disable the last voice card on node 1 if you do not have sufficient memory.

- 1 Select Other, and press <Return>.
- 2 Select Configure GACs, and press <Return>.
The Guest Administration Console Configuration screen appears.
- 3 Press [Add GAC].
You are prompted for the name of the terminal that you want to add.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, press [Cancel] to quit the operation.

- 4 Enter the name of one of the terminals listed in the bottom half of the screen that you want to configure with the GAC program, and press <Return>.
The new GAC terminal name will begin with "GAC" and end with a suffix that you define here. You are now prompted for that suffix.
- 5 Enter a new suffix for the new GAC terminal, and press <Return>.
The terminal name is added to the top part of the screen, to the list of terminals that have been configured with the GAC program.
- 6 Press [Exit] to return to the TOOLS menu.
- 7 Reenable the last voice card on node 1. (See the "System Status and Maintenance" chapter in the *System Administration Guide* for more details on enabling or disabling cards.)
- 8 Reboot the system for the change to take effect.

Procedure 16-2 **Deleting a GAC**

Starting point: The TOOLS menu

Note 1: Disable the last voice card on node 1 if you do not have sufficient memory.

- 1 Select Other, and press <Return>.
- 2 Select Configure GACs, and press <Return>.
The Guest Administration Console Configuration screen appears.
- 3 Press [Delete GAC].
You are prompted to specify the name of the terminal that you want to delete.
A new softkey, [Cancel], is displayed. If you do not wish to proceed, press [Cancel] to quit the operation.
- 4 Enter the name of the terminal from which you want to delete the GAC program. Press <Return>.
The terminal name is removed from the top of the screen and moved to the bottom to the list of terminals that can be configured with the GAC program.
- 5 Press [Exit] to return to the "Other" submenu of the main TOOLS menu.
- 6 Reenable the last voice card on node 1.

16-4 Configure GACs

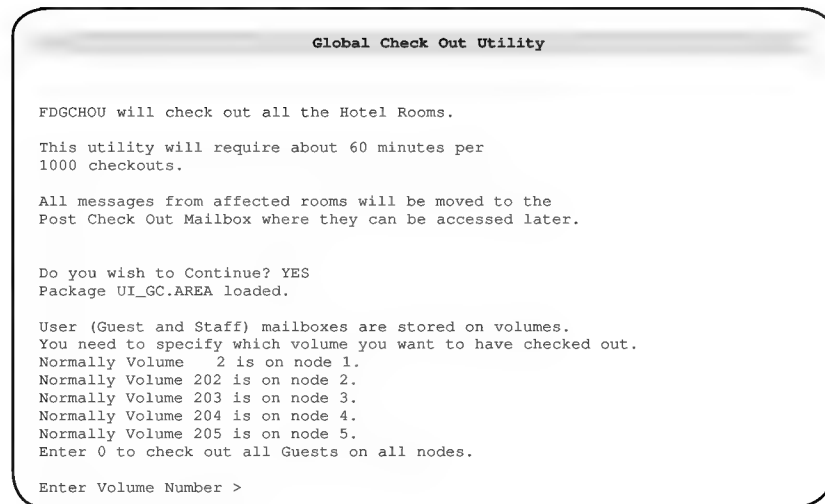
- 7 Reboot the system for the change to take effect.

Chapter 17: Check out all rooms

Note: This tool is available only on those systems with Hospitality Voice Services (HVS).

This tool allows you to check out all hotel rooms at one time. This tool is only required when a system restore operation has been performed, so that the messages of the previous room occupant are not restored to a new guest's mailbox.

Figure 17-1
The Global Check Out Utility screen



```
Global Check Out Utility

FDGCHOU will check out all the Hotel Rooms.

This utility will require about 60 minutes per
1000 checkouts.

All messages from affected rooms will be moved to the
Post Check Out Mailbox where they can be accessed later.

Do you wish to Continue? YES
Package UI_GC.AREA loaded.

User (Guest and Staff) mailboxes are stored on volumes.
You need to specify which volume you want to have checked out.
Normally Volume 2 is on node 1.
Normally Volume 202 is on node 2.
Normally Volume 203 is on node 3.
Normally Volume 204 is on node 4.
Normally Volume 205 is on node 5.
Enter 0 to check out all Guests on all nodes.

Enter Volume Number >
```

17-2 Check out all rooms

Procedure 17-1 Checking out all rooms

Starting point: The TOOLS menu

- 1 Select Other, and press <Return>.
- 2 Select Check out all rooms, and press <Return>.
The Global Check Out Utility screen appears.
- 3 To check out all rooms, go to step 3a. To return to the TOOLS menu, go to step 3b.
 - a. Press the up or down arrow key until "Yes" appears next to the prompt "Do you wish to Continue?" Then press <Return>.
 - b. Press the up or down arrow key until "No" appears next to the prompt "Do you wish to Continue?" Then press <Return>.
The TOOLS menu is displayed.
- 4 If "Yes" is selected, the information shown in Figure17-1 is displayed. You must choose a volume to be checked out, one volume at a time, or select the option to check out all guests.

Note: On Card Option systems, only node 1 and volume 1 exist.

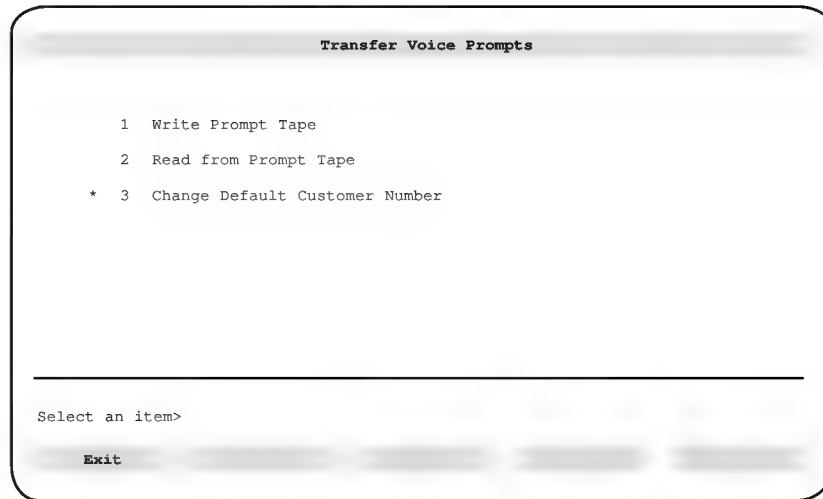
Chapter 18: Transfer voice prompts

The Transfer voice prompts tool is designed to facilitate the transfer of voice prompt files between mailboxes or Meridian Mail systems.

Note: This tool is available only if the Meridian ACCESS Enable feature is installed on your system.

When you select “Transfer voice prompts” from the TOOLS Level menu, the Transfer Voice Prompts screen (see Figure 18-1) is displayed.

Figure 18-1
The Transfer Voice Prompts screen



Note: *This item always shows on the menu; however, it is applicable only if the Multi-Customer feature is installed.

Write Prompt Tape

Only voice prompt files can be written to a prompt tape. (Files cannot be appended to the end of an existing tape.) This tool begins its write operation at the beginning of the tape. Figure 18-2 shows the Write Prompt Tape screen.

For the write operation to work properly, the system must have enough free disk space to store a copy of all the voice prompt files. One method to free up disk space is to run the “Audit all volumes” tool. For other suggestions on how to reduce the amount of disk space used, or to find out how much disk space is currently being used, consult the “Disk Usage Detail” report section in the “Operational Measurements” chapter of the *System Administration Guide* appropriate to your system.

Note: If the Multi-Customer feature is installed, specify the appropriate customer number before using this command.

Figure 18-2
The Write Prompt Tape screen

The screenshot shows a terminal window titled "Transfer Voice Prompts". Inside, the text "Write Prompt Tape" is displayed. Below it, the label "Mailbox" is followed by two columns of five horizontal input lines each. At the bottom of the window, there are two buttons: "Exit" and "View Data".

You may specify up to 10 different mailbox numbers (identifying the mailboxes containing the voice prompt files) in the available fields. If you want to write the files of more than 10 mailboxes to tape, you will have to perform more than one tape dump operation. You are also limited to writing a maximum of 16 files onto one tape.

Mailbox numbers are validated as you enter them. Only valid input will be accepted. If the entry is invalid, an error message will be displayed. Mailboxes are also validated for the existence of voice prompt files.

Note: If Networking is installed on your system, only mailboxes at the local site are considered valid.

Once the mailbox numbers have been entered, press [View Data] to display a screen (see Figure 18-3) listing the entered mailbox numbers and all the files associated with them.

If duplicate filenames show up on the View Data screen (more than one mailbox has the same filename associated with it), then these files must be written to tape separately. Select one of the duplicate filenames for one write operation (press [Write Selected Files]), and then select the other file for the next write operation.

Figure 18-3
The View Data screen

Transfer Voice Prompts

View Data

File Name	File Type	File Size (K)	Mailbox
Whiskey	Voice Prompt	122	2593
voice1000	Voice Prompt	181	2593
emp2	Voice Prompt	1	6401
myvoice	Voice Prompt	2345	2441

Move the cursor to the desired files and press the space bar to select.

Exit
Write All
Files
Write Selected
Files

The following fields are displayed on this screen:

- **File Name** The names of the files associated with the mailbox numbers entered in the Write Prompt Tape screen appear here. The total number of files associated with the (up to 10) mailboxes cannot exceed 16.
- **File Type** This is the type of file associated with the mailbox numbers entered in the Write Prompt Tape screen. Currently, the only valid file type is "Voice Prompt."
- **File Size** This is the size of the files (in kilobytes) associated with the mailbox numbers entered in the Write Prompt Tape screen.
- **Mailbox** This is the mailbox number as entered in the Write Prompt Tape screen.

Procedure 18-1
Transferring files to tape

Starting point: The Transfer Voice Prompts screen

- 1 Select Write Prompt Tape from the Transfer Voice Prompts screen.
The Write Prompt Tape screen is displayed.

- 2 Enter the mailbox numbers of the mailboxes containing the voice prompt files you wish to transfer to tape.
If the total number of voice prompt files contained in the specified mailboxes exceeds 16, you will not be able to enter any more mailbox numbers. In this case, you will have to perform more than one tape dump operation.
- 3 Press [View Data].
The View Data screen is displayed.
Note 1: A number of error conditions may be reported during the tape dump process such as tape write errors and tape media failures. Error messages are displayed to notify you of such conditions and a [Retry] softkey is displayed so that you may try the tape dump again.
Note 2: If duplicate filenames show up in the View Data screen, the duplicate files must be written to tape separately. Use the [Write Selected Files] option discussed in Step 4b.
- 4 To transfer all the files listed in the View Data screen to tape, go to step 4a. To transfer one or more (but not all files listed) to tape, go to step 4b.
 - a. Press [Write All Files]. All of the files listed on the screen are transferred to tape.
The files are converted to the required format. After a short delay, a new screen is displayed, prompting you to insert the tape and press [OK] to start writing to tape.
 - b. Use the up or down arrow key to move the cursor to the desired file. Press the <Space Bar> to select it. Repeat this step for all files that you want to transfer to tape.
Once all of the files you want to transfer are selected, press [Write Selected Files].
The files are converted to the required format. After a short delay, a new screen is displayed, prompting you to insert the tape and press [OK] to start writing to tape.
- 5 Insert the tape.
- 6 Press [OK] to start writing to tape. The [Cancel] softkey appears. Press [Cancel] if you need to abort an active tape dump at any time during the transfer process.
The files are transferred to tape. The output from the program that transfers the files is displayed on the screen as the transfer occurs.

Note: The active utility program looks in up to four text volumes for space to hold the temporary file that is created during the transfer process. This space is released as soon as the tape is made. If there is not enough temporary space available on your system, you will be notified with a message indicating the amount of space required to complete the transfer.

When the transfer is complete, the following message is displayed:

*** MAKETAPE volume completed ***

- 7 To make extra copies of the tape, wait until the above message is displayed and then press [Retry/Another Copy] to make extra copies of the current tape. If you do not need more copies, go to step 8.
- 8 To transfer more files from the mailboxes already displayed on the View Data screen, go to step 8a. If you want to specify a new group of mailboxes from which you wish to transfer voice prompt files, or if you do not want to do another tape transfer at this point, go to step 8b.
 - a. Press [Cancel].

You are returned to the View Data screen (see Figure 18-3).

To transfer files to another tape, go to step 4b.

- b. Press [Exit].

You are returned to the Write Prompt tape screen (see Figure 18-2).

From this screen, you may delete the current mailboxes and enter a different set of mailboxes (go to step 2), or you may return to the Transfer Voice Prompts menu (see Figure 18-1) by pressing [Exit].

Use the [Exit] softkey on the Transfer Voice Prompts menu screen to return to the TOOLS menu.

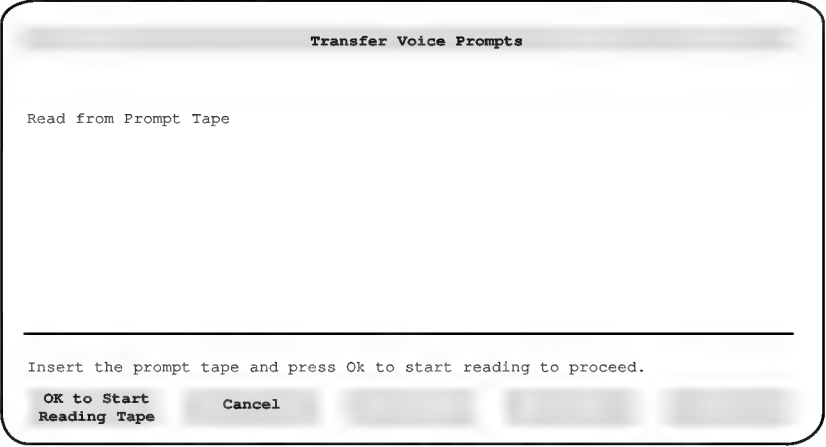
Read from Prompt Tape

Read from Prompt Tape scans all files on the tape and processes them according to your specifications.

When you select the Read Prompt Tape option from the Transfer Voice Prompts menu, the Read from Prompt Tape screen is displayed (see Figure 18-4).

Note: If the Multi-Customer feature is installed, specify the appropriate customer number before using this command.

Figure 18-4
The Read from Prompt Tape screen



Procedure 18-2
Reading voice prompts from tape

Starting point: The Transfer Voice Prompts menu

Note: There must be enough memory and temporary space on your system to accommodate the temporary files that are created during this process. If additional memory is required in an active system, channels can be courtiesied down to get required memory. It is recommended that the higher numbered channels are courtiesied down first.

- 1 Select Read from Prompt Tape from the Transfer Voice Prompts screen.

The Read from Prompt Tape screen (see Figure 18-4) appears.

- 2 Insert the prompt tape.
- 3 Press [OK].

The tape is read and verified. If an incorrect tape has been inserted, or if there are any errors during the process, you will be notified by a screen message and given the opportunity to retry the operation.

When the correct tape is inserted, the screen shown in Figure 18-5 is displayed. This mailbox information is obtained from the tape.

Figure 18-5
Source and Destination mailboxes

The screenshot shows a window titled "Transfer Voice Prompts". Inside, there is a section titled "Read from Prompt Tape". Below this, there is a table with two columns: "Source Mailbox" and "Destination Mailbox". The table contains four rows of data. At the bottom of the window, there is a line of text: "Select Install to add new prompts or Upgrade to add or replace prompts." Below this text are four buttons: "Cancel", "Install", "Upgrade", and a fourth button that is partially obscured.

Source Mailbox	Destination Mailbox
2593	2593
6401	6401
2441	2441
6203	6203

Select Install to add new prompts or Upgrade to add or replace prompts.

Cancel Install Upgrade

The Destination Mailbox fields are prefilled with the source mailboxes as the default data. The Destination Mailbox fields can be edited to indicate the mailboxes to which prompts are to be copied. If a Destination Mailbox field is left blank, the contents of the corresponding source mailbox will not be copied to any mailbox.

- 4 Press [Install] or [Upgrade] to transfer the source mailboxes to the destination mailboxes.

If you press [Upgrade], any existing files with the same name will be overwritten.

If you press [Install], you will be informed that there are existing files having the same name, and they will not be overwritten.

Press [Cancel] to abort all action.

You are returned to the Transfer Voice Prompts menu.

Change Default Customer Number

This command applies only if the Meridian Mail Multi-Customer feature is installed. When this item is selected, you are prompted to enter the customer number to be used when referencing mailboxes in the read or write commands. No validation is performed on the number you enter, so be sure to enter the correct customer number.

18-10 Transfer voice prompts

Chapter 19: ACCESS diagnostics

The ACCESS diagnostics tool can be used to diagnose or monitor system activity, or both, related to Meridian ACCESS running on a UNIX processor.

Note: This tool is available only if the Meridian ACCESS Enable feature is installed on your system.

The diagnostic tool includes a group of commands which allow you to verify

- if an ACCESS link is operational
- link stability
- the ACCESS port number and link version of the application processor (Release 2 or 3)
- the number of link outages that have occurred
- if application traffic is present
- whether the Meridian ACCESS tasks are running
- whether the applications processor link handler is running

Figure 19-1 shows the initial screen that is displayed when the diagnostic tool is loaded from the TOOLS menu. The last line on the screen displays the current command.

ACCESS components

There are three primary components on each side of the ACCESS link. They are briefly discussed in the following sections. If you require a more detailed description, refer to the Overview in the *Meridian ACCESS Configuration Guide* (NTP 555-7001-315).

Meridian Mail components

Toolkit

There is a Toolkit (TK) for each voice port on the system. The Toolkit is responsible for executing API commands received across the Meridian ACCESS link.

Toolkit Master

The Toolkit Master (TKM) acts as a resource manager for Toolkit tasks. There will be a Toolkit Master for each node configured to have an ACCESS link.

Toolkit Communications

The Toolkit Communications (TC) task is responsible for driving the Meridian ACCESS link. It implements a proprietary protocol that supports variable size packets, checksum error handling, virtual channels, and retransmission on errors. Valid command packets received are passed on to the appropriate toolkit task. There will be a TC for each node configured to have an ACCESS link.

Application processor components

ACCESS link handler

This task provides functionality equivalent to the Toolkit Communications task for the applications processor side. The link handler is split into two tasks: one receives data and the other handles the output.

ACCESS Application Programming Interface library

This is the ACCESS object code library containing ACCESS Application Programming Interface (API) procedures that are accessed by the applications. Most procedures translate into commands that are put into a data packet and passed on to the link handler.

Application

This is the “C” program written by either Nortel or a third-party developer that uses ACCESS API procedures to answer calls when they arrive. The application controls the interactive voice response (IVR) service being provided.

Meridian ACCESS Diagnostics screens

The Meridian ACCESS Diagnostics (MADT) screens provide information concerning the stability and status of all ACCESS links. The main Meridian ACCESS Diagnostic screen which is available through the TOOLS menu provides a list of current links, while softkeys allow you to select more extensive levels of detail or to reset counters.

Procedure 19-1

Accessing the main Meridian ACCESS Diagnostics screen

Starting point: The TOOLS menu

- 1 Select Other and press <Return>.
The System/Feature Dependent Tools menu is displayed.
- 2 Select ACCESS Diagnostics and press <Return>.
The main Meridian ACCESS Diagnostics screen (see Figure 19-1) is displayed.

Figure 19-1
The main Meridian ACCESS Diagnostics screen

The screenshot shows the 'Meridian ACCESS Diagnostics' screen. At the top, it says 'Link Configuration'. Below this is a table with six columns: Link#, Description, Location, TKMstat, TCstat, and LinkStatus. There are six rows of data. Below the table, it says 'Move the cursor to the link location and press the space bar to select.' At the bottom, there are five softkeys: Exit, Reset, Info, Link, and Help.

Link#	Description	Location	TKMstat	TCstat	LinkStatus
1	ACCESS	1-8-1	Running	Running	Not Working
2	ACCESS	1-8-2	Running	Running	Synchronized
3	ACCESS	1-8-3	Running	Running	Not Working
4	ACCESS	1-8-4	Running	Running	Not Working
5	ACCESS	2-3-2	Running	Down	Not Working
6	ACCESS	5-3-1	Running	Running	Synchronized

Move the cursor to the link location and press the space bar to select.

Exit Reset Info Link Help

- 3 Use the up and down arrow keys to highlight the ACCESS link you wish to view, then press <Space Bar> to select the link. Each link entry provides the following information:

19-4 ACCESS diagnostics

- link number
 - link type name (ACCESS)
 - link hardware location (in the format <node#>-<card#>-<port#>)
 - TKM status
 - Toolkit communication status
 - status of the link (not working, synchronized)
- 4 Select one of the softkeys to perform the appropriate action. Refer to Table 19-1 for an explanation of each action.

Table 19-1
MADT softkeys

Softkey	Action
Exit	Return to the TOOLS level menu.
OM Reset	Reset the packet counters of the highlighted link to zero. An informational message is displayed once the operation is complete. See Figure 19-2.
OM Info	Displays the MADT Link Information screen. See Figure 19-3.
Link Test	Determines if the link handler on the applications processor is operational for the highlighted link. A status message is displayed on the MADT Link Information screen. See Figure 19-4.
Help	Displays MADT Help screen. See Figure 19-6.

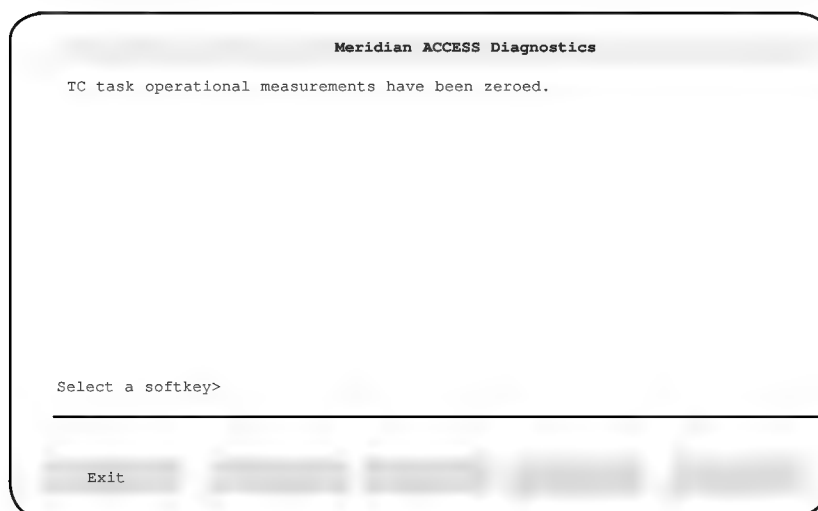
- 5 When you have finished running diagnostics, select the EXIT command to return to the TOOLS menu.

OM Reset

The Meridian ACCESS Diagnostics Reset Information screen is accessed by selecting <OM Reset> from the Main ACCESS Diagnostics screen. The screen indicates whether the operational measurements (OMs) have been reset. Refer to Figure 19-2.

If the reset is properly executed, the message “TC task operational measurements have been zeroed” is displayed, and the counters are reset to zero. If the reset cannot be accomplished, an appropriate message will be displayed.

Figure 19-2
OM Reset screen



OM Info

The Meridian ACCESS Diagnostics Link Information screen is accessed by selecting <OM Info> from the Main ACCESS Diagnostics screen. The screen provides read-only access to statistics regarding the stability of the link. Refer to Figure 19-3.

There are several indicators in the OM data which can help to determine link stability, such as the number of errors detected. There are several types of errors that occur. For each type, a total is calculated. These totals are then used to calculate the link error rate. It is quite normal to have some errors. The error rate will be slightly higher for more heavily used links.

Note: If the error rate remains greater than 0.01 percent, action should be taken. On a system that has been up and running normally, the error rate should not fluctuate greatly. However, during installation or configuration changes, you may experience a higher error rate for several reasons:

- The ACCESS RS-232 cable is too long (for example, greater than 15.15 meters [50 feet]).
- The application processor cannot cope with link traffic. This is probably the case if the majority of received errors are “Naks.”
- Application traffic needs to be reduced. This is probably the case if the majority of errors are on the receiving (Meridian Mail) side.

Figure 19-3
The Meridian ACCESS Diagnostics Link Information screen

Meridian ACCESS Diagnostics

Information for Link #1
 TC last started 17/08/94 09:38:02 TKM last started 15/08/94 12:33:15
 Active Sessions=1 AOIC Pending=0
 ACCESS Port=1 Link Version=3
 TC Crashes=0 Link Outages=0

PKT COUNTS	Data	Poll	Ack	Nak	Sync	Term
Sent	630	4334	4900	0	0	0
Received	557	4343	4964	0	0	0

PKT ERRORS	Format	Checksum	Sequence	Error	Percentage	Timeouts
Received		0	0	0	0.00	0

ACCESS link is operational on Meridian Mail

Select a Softkey>

Exit

At the top of the screen, a variety of fields display information regarding the stability and status of the link.

- ***TC last started*** This is an indication of whether the TC task is running. When the TC task is running, the link is either in operational mode or attempting to synchronize with the UNIX processor. If the link is operational, then the link handler on the UNIX processor is up and running.
 - ***TKM last started*** This is an indication of whether the TKM task is running.
- Note:** For the TC to be running, the TKM must be present.
- ***Active Sessions*** Self-explanatory.
 - ***AOIC Pending (Acquire on Incoming Calls)*** This field indicates whether a port has been acquired to run the application.

- **ACCESS port** This is the number of the data port.
- **TC Crashes** Self-explanatory.
- **Link Outages** Self-explanatory.

PKT COUNTS

- **Data** The total number of data packets.
- **Poll** The number of sanity poll packets (sent only when the link is idle).
- **Ack** The number of acknowledgement packets.
- **Nak** The number of negative acknowledgement packets.
- **Sync** The number of synchronization request packets.
- **Term** The number of shutdown link request packets.

PKT ERRORS

- **Format** The number of packets received in the wrong format.
- **Checksum** The number of packets received containing checksum errors.
- **Sequence** The number of packets received out of sequence.
- **Error Percentage** The link receive error rate, calculated by dividing the total number of packets received by the number of packet transmission errors.
- **Timeouts** UNIX workstation responses not received.
- **Link status** The report indicates whether the ACCESS link is operational. If the link cable is unplugged, it may take up to 30 seconds to detect this.

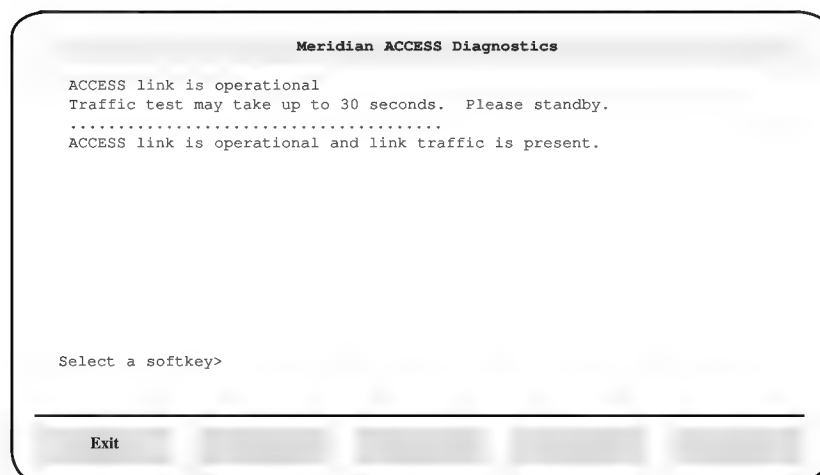
Link Test

This softkey performs the necessary checks and displays a report on the status of ACCESS software running on the applications processor.

When <Link Test> is running, it monitors the link and reports if any application traffic was detected. If the link appears operational but no link traffic is detected within 30 seconds, the link handler on the applications processor is not functioning correctly.

Figure 19-4 shows the output for the <Link Test> softkey when the system is operating normally and one or more applications are active.

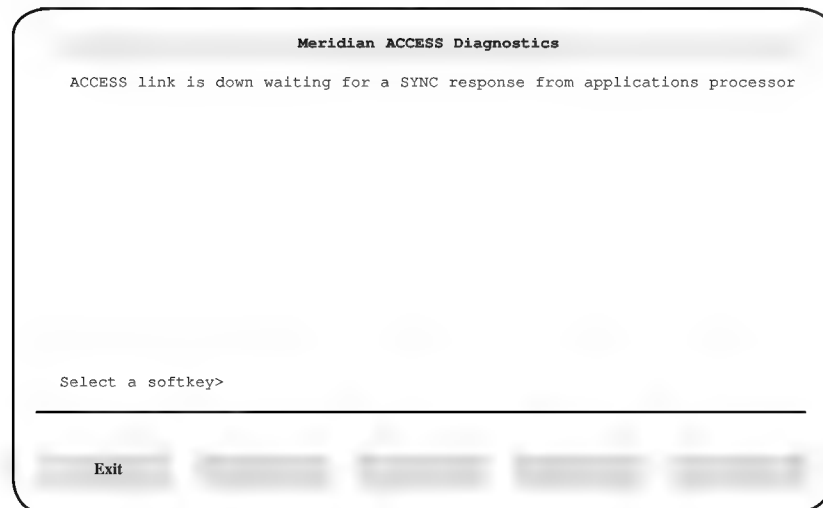
Figure 19-4
Link Test screen



19-10 ACCESS diagnostics

When the Link Information screen indicates that the link is not operational, selecting <Link Test> simply confirms this as shown in Figure 19-5.

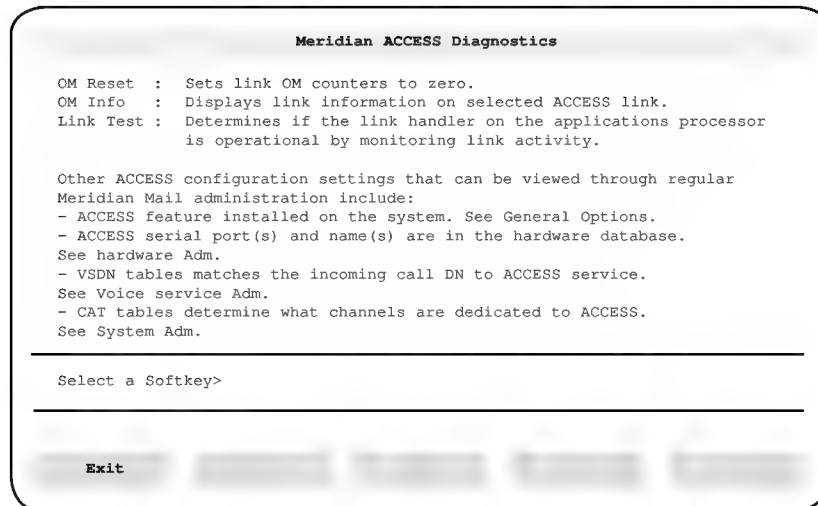
Figure 19-5
Link Test output screen (link not operational)



Help screen

This softkey displays the Meridian ACCESS Diagnostics Help screen.

Figure 19-6
The Meridian ACCESS Diagnostics Help screen



Diagnosing ACCESS configuration problems

If results indicate that there may be a configuration problem on Meridian Mail, it is useful to know the actual configuration requirements of ACCESS on Meridian Mail. The following sections discuss configuration parameters which can be checked.

Procedure 19-2

Verifying ACCESS is enabled on Meridian Mail

Proceed as follows to check whether ACCESS is enabled on your Meridian Mail.

- 1 Select General Administration from the Meridian Mail Main Menu.
- 2 Select General Options from the next menu displayed.

Meridian ACCESS will be listed under the "Available Features" portion of the screen.

ACCESS link cable

The ACCESS link cable should be connected to the data ports that are configured as MMLink in Meridian Mail. If you are unsure whether the ACCESS link cable is correctly connected, compare the physical cables to the dataports appearing on the Dataport Configuration screen. See "Dataport configuration" for more information.

Viewing hardware database settings

Procedure 19-3

Viewing hardware database settings

- 1 Select Hardware Administration from the Meridian Mail Main Menu to view hardware database settings.
- 2 Select Data Port Configuration from the next menu displayed.

This screen displays a list of configured system data ports only, one of which should be of device type MMLink.

- 3 Select the item in the list and press the [View] softkey to view the port setting.

The data port that is configured for ACCESS must have the following settings:

- Device Type must be set to "MMLink".*
- Baud Rate must be set to 4800 or 9600. Refer to the ACCESS Configuration Guide (NTP 555-7001-315) for further information.*
- Data Port Location must be specified.*

Chapter 20: Configure MATs

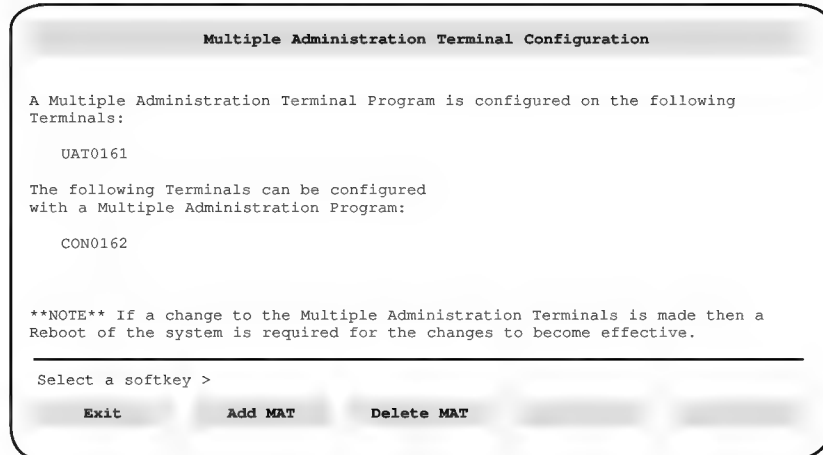
The Configure MATs tool allows you to view or change the number of Multiple Administration Terminals (MATs). The tool lists the currently configured MATs and provides a means for adding the MAT program to a terminal or deleting it from one. Terminals are normally defined as MAT terminals during installation. Therefore, this tool is only used in the event that you need to change the configuration that was created during installation.

Note: This tool is available only if the Multiple Administration Terminals feature is installed on your system.

The Configure MATs option is displayed when you select “Other” from the main TOOLS menu. When you select Configure MATs from this submenu, the screen shown in Figure 20-1 is displayed.

Note: To change the MAT Dataport speed, refer to Chapter 4, Procedure 4-8, “Setting parameters for the terminal data port.”

Figure 20-1
The Multiple Administration Terminal Configuration screen



A terminal name is displayed in this screen for any data port that is defined as “Terminal” in the hardware database. The first part of the screen displays all terminals that have been configured with the Multiple Administration Terminal Program. The bottom portion of the screen displays those terminals that can be configured with the program. The following procedures describe how to add and delete the MAT program.

Procedure 20-1
Adding a MAT

Starting point: The TOOLS menu

Note: If there are no available terminal ports, an existing unused data port must be configured using the Modify hardware tool. No more than three Multiple Administration Terminals can be installed on a system.

- 1 Select Other and press <Return>.
- 2 Select Configure MATs and press <Return>.

The Multiple Administration Terminal Configuration screen appears.

- 3 Press [Add MAT].

You are prompted to specify the name of the terminal that you want to add.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, press [Cancel] to quit the operation.

- 4 Enter the name of one of the terminals that can be configured with a Multiple Administration Program. Press <Return>.

You are prompted to provide a suffix for the new terminal name. All terminals configured with the Multiple Administration Terminal program begin with UAT.
- 5 Enter the suffix for the new terminal name (the standard naming convention for UAT is **UATnnnp**, where **nn** is the node number, **c** is the card number, and **p** is the port number. You do not have to follow this convention, but only alphanumeric input will be accepted).

The terminal name is added to the top of the screen where the configured terminals are listed.
- 6 Press [Exit] to return to the "Others" submenu of the main TOOLS menu.
- 7 Reboot the system for the change to take effect.

Procedure 20-2

Deleting a MAT

Starting point: The TOOLS menu

- 1 Select Other and press <Return>.
- 2 Select Configure MATs and press <Return>.

The Multiple Administration Terminal Configuration screen appears.
- 3 Press [Delete MAT].

You are prompted to specify the name of the terminal that you want to delete.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, [Cancel] to quit the operation.
- 4 Enter the name of one of the terminals that is currently configured with a Multiple Administration Program. Press <Return>.

The terminal name is removed from the top of the screen and moved to the list of terminals that can be configured with the Multiple Administration Program. The name is changed from UATxxx to CONxxx.
- 5 Press [Exit] to return to the main TOOLS menu.
- 6 Reboot the system for the change to take effect.

20-4 Configure MATs

Chapter 21: Add or delete many users

Note: This tool is available only on Card Option systems.

The Add or Delete many users tool allows you to do the following:

- Assign a Class of Service (COS) and a hospitality user class (if applicable) to the group of mailboxes you wish to add; this is the “Set Parameters” option and must be run before you run either the “Add User” or the “Delete User” option.

Note: On multi-customer systems, the Set Parameters option also prompts for the customer group that you wish to delete from or add to.

- On a system with NMS installed, the prompts are all the same; however, the administrator will be allowed to put the location prefix in front of the starting mailbox number. A line is output to the screen for information purposes only.

```
*>mbox = < > Loc = < > Site = < >
```

- Add or delete a group of consecutive user mailboxes, rather than adding or deleting them one at a time through User Administration (see the “User Administration” chapter in the *System Administration Guide*, or the *Customer Administration Guide* for Multi-Customer systems).
- This utility cannot be used to add remote voice users. If a prefix of a remote site is tried, the following error message will be displayed:

```
cannot add remote voice users with this utility.
```

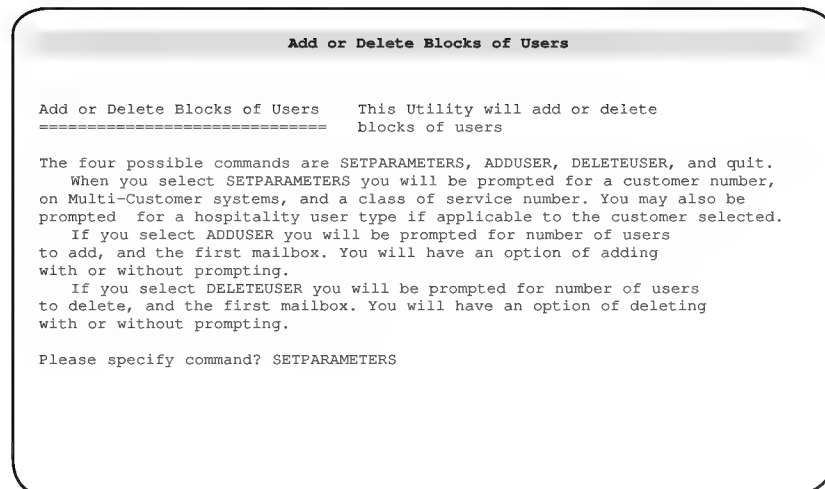
Card Option systems may be installed with user mailboxes already added. If the number of mailboxes or the mailbox numbers are not appropriate, you can delete the existing mailboxes and then add a group of new ones with this tool (or add them one at a time in User Administration).

21-2 Add or delete many users

For example, your system may come with mailbox numbers that are four digits in length whereas you require three digit mailbox numbers. Rather than changing each mailbox individually, it would be easier to delete the existing block of mailboxes and add a new block using a numbering plan that is appropriate.

When you select the Add/delete many users item from the TOOLS menu, the screen shown in Figure 21-1 is displayed.

Figure 21-1
The Add or Delete Blocks of Users screen



```

Add or Delete Blocks of Users      This Utility will add or delete
=====                          blocks of users

The four possible commands are SETPARAMETERS, ADDUSER, DELETEUSER, and quit.
When you select SETPARAMETERS you will be prompted for a customer number,
on Multi-Customer systems, and a class of service number. You may also be
prompted for a hospitality user type if applicable to the customer selected.
If you select ADDUSER you will be prompted for number of users
to add, and the first mailbox. You will have an option of adding
with or without prompting.
If you select DELETEUSER you will be prompted for number of users
to delete, and the first mailbox. You will have an option of deleting
with or without prompting.

Please specify command? SETPARAMETERS

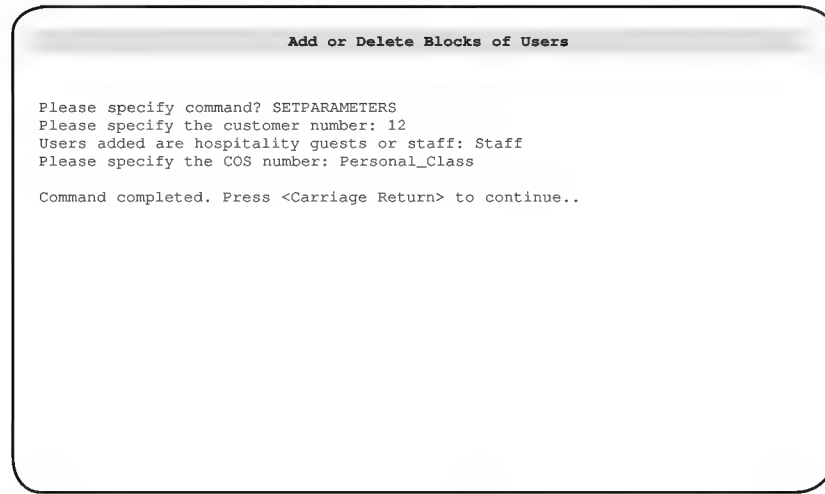
```

The Set Parameters option must be run first before adding or deleting. Following that, typically, administrators will want to delete a block of users, and then add a new block of users that will have the parameters that were set during the Set Parameters option.

Set parameters

Figure 21-2 provides an example of the prompts and responses for the Set Parameters option.

Figure 21-2
Set parameters for a block of users



Note 1: On single-customer systems, the Set Parameters option does not prompt for a customer number. Similarly, the prompt for a hospitality user class does not appear on non-Hospitality systems.

Note 2: The specified hospitality user class and Class of Service is assigned to any users added through the Add User option of this tool. However, the hospitality user class and Class of Service do not affect the Delete User option. When you run Delete User, mailboxes are deleted regardless of the hospitality user class or Class of Service selected here.

Delete a block of users

Figure 21-3 provides an example of the prompts and responses for the Delete User option. This option allows you to delete up to 1000 users (mailboxes). On multi-customer systems, these users are deleted from the customer group specified when you ran the Set Parameters option.

By specifying a starting mailbox number and how many users you want to delete, you define a range of mailboxes to be deleted. For example, if the starting mailbox number is 1000 and you specify 50 mailboxes to delete, mailboxes from 1000 to 1049 will be deleted.

If some of the mailboxes within the specified range did not exist (for example, mailboxes 1010 to 1015 were never set up), then they are skipped over. No additional mailboxes are deleted to compensate for the skipped mailboxes. The range of mailboxes to delete would remain 1000 to 1049.

Also, mailboxes within the specified range will be deleted regardless of the hospitality user class or Class of Service selected when you ran the Set Parameters option.

If you want a printout of the deleted users, press <Control><W> to access the CobraVT window. Then press <P> to turn on the printer. All screen messages and displays are printed. To turn off the printer, press <Control><W> to access the CobraVT window. Then press <P> to toggle off the printer.

A success or failure message is displayed after each attempted deletion.

Figure 21-3
Delete a block of users

```

Add or Delete Blocks of Users

Please specify command? DELETEUSER
Please specify how many users are to be deleted: 4
Please specify the start mailbox number: 2221
Are you sure you want to delete these users? YES
Do you want to be prompted for each user deletion? YES
Do you want to Delete User with Mailbox 2221? YES
User with Mailbox 2221 has been deleted.
Do you want to Delete User with Mailbox 2222? NO
Do you want to Delete User with Mailbox 2223? YES
User with Mailbox 2223 has been deleted.
Do you want to Delete User with Mailbox 2224? YES
User with Mailbox 2224 does not exist.

Command completed. Press <Carriage Return> to continue..

```

Add a block of users

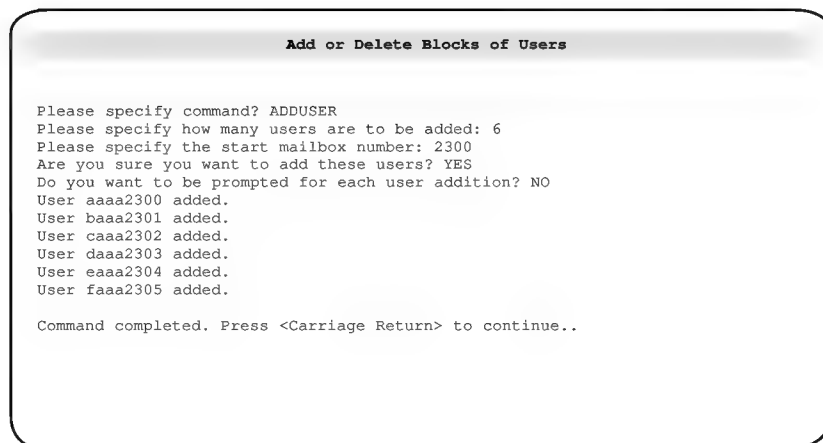
Figure 21-4 provides an example of the prompts and responses for the Add User option. This option allows you to add up to 1000 users (mailboxes). On multi-customer systems, these users are added to the customer group specified when you ran the Set Parameters option.

On non-Hospitality systems, the mailbox number is preceded by a default surname created for the new mailbox that is sequentially generated starting with “aaaa” as shown in Figure 21-4. Note that the surname is not part of the mailbox number. It is displayed beside the mailbox number so that you can see what default surname has been assigned to the new mailbox.

The added users will have the Class of Service that was selected when you ran the Set Parameters option.

If you want a printout of the added users, press <Control><W> to access the CobraVT window. Then press <P> to turn on the printer. All screen messages and displays are printed. To turn off the printer, press <Control><W> to access the CobraVT window. Then press <P> to toggle off the printer.

Figure 21-4
Add a block of users



Adding users on Hospitality systems

Figure 21-5 provides an example of the prompts and responses for the Add User option on a Hospitality system. You can add up to 1000 users at one time.

The added users will have the Class of Service and the hospitality user class that was selected when you ran the Set Parameters option.

If you want a printout of the added users, press <Control><W> to access the CobraVT window. Then press <P> to turn on the printer. All screen messages and displays are printed. To turn off the printer, press <Control><W> to access the CobraVT window. Then press <P> to toggle off the printer.

Figure 21-5
Add a block of users to a Hospitality system

```

Add or Delete Blocks of Users

Please specify command? ADDUSER
Please specify how many users are to be added: 6
Please specify the start mailbox number: 2300
Are you sure you want to add these users? YES
Do you want to be prompted for each user addition? NO
Guest User 2300 added.
Guest User 2301 added.
Guest User 2302 added.
Guest User 2303 added.
Guest User 2304 added.
Guest User 2305 added.

Command completed. Press <Carriage Return> to continue..
```

Procedures for setting parameters, deleting users, and adding users

The Set Parameters option must be run first. After that, you can run Add User or Delete User.

Procedure 21-1

Setting parameters for adding or deleting users

Starting point: The TOOLS menu

- 1 Select Other and press <Return>.
- 2 Select Add/Delete Many Users and press <Return>.
The SETPARAMETERS option is the default, and should be the option that appears first in response to the prompt "Please specify command?" Press <Return> to select this option.
- 3 If this is a multi-customer system, the following prompt appears:
Please specify the customer number:
Enter the customer number that you plan to delete from or add to.
- 4 Next, if this is a Hospitality system, the following prompt appears:
Users added are hospitality guests or staff:
Use the up or down arrow keys to select "guests" or "staff."
- 5 Next, you are prompted for a COS number:
Please specify the COS number:

The default is Personal_Class. Use the up or down arrow keys to change this selection to one of the other COSs assigned to this customer. Except for Personal_Class, only the COS number appears for the other choices.

Once you have completed this step, you are prompted to press <Return> to continue. After you press <Return>, the initial Add or Delete Blocks of Users screen is displayed.
- 6 Once you have returned to the initial screen display, you can select the same command again or a different command; or you can select QUIT to return to the TOOLS menu.

Procedure 21-2
Deleting a block of users

Starting point: The Add or Delete Blocks of Users screen

- 1 Use the up or down cursor key to select the DELETEUSER command and press <Return>. The following prompt is displayed:
`Please specify how many users are to be deleted:`
- 2 Enter the number of users that you want to delete.
The following prompt is displayed:
`Please specify the start mailbox number:`
- 3 Enter the start mailbox.
If the end of the block of users exceeds the maximum mailbox number, the following message appears (go to step 2 to continue):

`This block will exceed the maximum Mailbox number threshold.
Please choose another (lower) start Mailbox number,
or reduce the number of users to be deleted.
Please specify how many users are to be deleted:`
If the block of users to be deleted does fit into the mailbox limitations, the following prompt is displayed (go to step 4 to continue):

`Are you sure you want to delete these users?`
- 4 To continue, use the up or down arrow keys to select Yes and press return.

To cancel the operation, select No. The Add or Delete Blocks of Users screen remains displayed, but the users are not deleted.

If you choose to continue, the following prompt is displayed:

`Do you want to be prompted for each user deletion?`
- 5 Use the up or down cursor to select Yes if you want to be prompted before each user is deleted, or select No if you want all users to be deleted without any prompting.

Once the deletion steps have been completed, you are prompted to press <Return> to continue. After you press <Return>, the initial Add or Delete Blocks of Users screen is displayed.
- 6 Once you have returned to the initial screen display, you can select the same command again or a different command; or you can select QUIT to return to the TOOLS menu.

Procedure 21-3
Adding a block of users

Starting point: The Add or Delete Blocks of Users screen

- 1 Use the up or down cursor key to select the ADDUSER command and press <Return>. The following prompt is displayed:

Please specify how many users are to be added:

- 2 Enter the number of users that you want to add.

The following prompt is displayed:

Please specify the start Mailbox number:

- 3 Enter the start mailbox.

If the end of the block of users exceeds the maximum mailbox number, the following message appears (go to step 2 to continue):

This block will exceed the maximum Mailbox number threshold.

Please choose another (lower) start Mailbox number, or reduce the number of users to be added.

Please specify how many users to be added.

Please specify the start Mailbox number:

If the block of users to be added does fit into the mailbox limitations, the following prompt is displayed (go to step 4 to continue):

Are you sure you want to add these users?

- 4 To continue, use the up or down arrow keys to select Yes and press <Return>.

To cancel the operation, select No. The Add or Delete Blocks of Users screen remains displayed, but the users are not added.

If you choose to continue, the following prompt is displayed:

Do you want to be prompted for each user addition?

- 5 Use the up or down cursor to select Yes if you want to be prompted before each user is added, or select No if you want all users to be added without any prompting.

Once the "add user" steps have completed, you are prompted to press <Return> to continue. After you press <Return>, the initial Add or Delete Blocks of Users screen is displayed.

- 6** Once you have returned to the initial screen display, you can select the same command again or a different command; or you can select QUIT to return to the TOOLS menu.

21-12 Add or delete many users

Chapter 22: RN Administration

The Remote Notification (RN) Administration tool allows you to change the parameters that control the interaction between Meridian Mail and the remote notification device selected by the user. When the user sets up RN on his or her mailbox, the user is asked to select a telephone type, which can be a remote telephone, tone-only pager, voice pager, numeric pager, or paging service.

Note: The Remote Notification Administration tool is available only if the Outcalling feature is installed on your system.

If you are unclear about how remote notification works on Meridian Mail, please read the *Voice Messaging User Guide*, which describes various Meridian Mail features, including remote notification. Also refer to the *Outcalling Application Guide* (NTP 555-7001-320) which describes how the system administrator sets up outcalling features on the system.

When a user selects one of the pagers or the paging service to be the paging device, Meridian Mail must interact first with the paging company which then calls the pager. Therefore, the requirements of the paging company must be considered when defining the parameters for these paging devices. When the paging device is a phone, Meridian Mail calls the remote phone directly (no paging company is involved).

Note 1: The parameters that you define using this tool take effect only when the system administrator sets the Numeric Pager Data Terminator field to “E” (see the *Outcalling Application Guide* for details). Otherwise, the default parameters (as shown in this chapter) are used, regardless of the last parameter values defined through this tool.

Note 2: When the user sets up remote notification for his or her mailbox, the user may mistakenly indicate that the paging device they are using is a tone only pager, for example, when it is actually a remote telephone. As a result, the option to play Meridian Mail prompts is available for paging devices such as the tone-only pager, numeric pager, and paging service.

The RN Administration main menu

When you select RN Administration from the TOOLS menu, the following screen (see Figure 22-1) appears.

Figure 22-1
Remote Notification Administration menu

```
Remote Notification Administration

General Information:

All times are presented and entered in seconds.
Instructions will be provided on the use of each screen
prior to its presentation if HELP has been turned on.

Parameters to be modified for device:

1 - Phone
2 - Tone Only Pager
3 - Voice Pager
4 - Numeric Pager
5 - Paging Service
6 - Exit
7 - Turn on HELP
(7 - Turn off HELP)

Select one of the above:
```

When you select one of the menu items 1 to 5, the system prompts you to fill in values for the various parameters for that device.

Selecting item 7 turns the HELP feature on. Select item 7 a second time if you wish to turn HELP off. If HELP is turned on, help text is displayed when you return to this screen and before the prompts begin when you select one of the items 1 to 5.

The prompts, the allowable answers, and the default answers are presented in table form in the rest of this chapter.

Note: If a parameter value has already been changed during a previous use of the RN Administration tool, then the default response shown in this document is replaced by the last value defined for that parameter.

However, if the system administrator has not set the Numeric Pager Data Terminator field to “E”, the RN parameters revert to the original default responses shown in this document, regardless of the last parameter values defined through this tool.

Phone (item 1)

These parameters determine how the RN feature works when the selected paging device is a phone.

Table 22-1
RN feature with phone

Prompt number	Prompt	Possible values	Default value
1	Silence Detection Timeout (in seconds):	1–30	20
2	Is this value correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

- 1 The “Silence Detection Timeout,” when the paging device is a phone, is how long RN waits for the person answering the phone to finish his greeting (for example, “*Good morning. Nortel ...*”) before RN sends its message. The person answering the phone may not be ready to receive the RN message until he finishes speaking. The RN message, in this case, would be, “*Hello, <Custom Call Answering Greeting> has received a message for*” If the timeout is reached before the person finishes his greeting, RN will continue anyway.
- 2 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Tone-Only Pager (item 2)

These parameters determine how the RN feature works when the selected paging device is a tone-only pager. A tone-only pager can make only an audio signal (a beep or tone) when it is reached.

Table 22-2
RN feature with tone-only pager

Prompt number	Prompt	Possible values	Default value
1	Silence Detection Timeout (in seconds):	1–30	20
2	Delay before playing Prompts or Disconnecting (in seconds):	0–30	0
3	Play Prompts to the paging system? (Yes/No):	Yes, No	Yes
4	Are these values correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

- 1 The “Silence Detection Timeout” is the length of time RN waits for the paging company to finish its greeting (for example, “*you have reached xxx paging company ...*”) before continuing with the RN procedure. While the paging company’s greeting is playing, the paging company may not be ready to receive the RN greeting and any other data that is being sent to this paging device. If the timeout is reached before the paging company’s greeting is done, RN will continue anyway.
- 2 Some paging companies require a delay following the silence detection before receiving the RN/Meridian Mail prompts or disconnecting. A tone only pager is not equipped to receive the RN/Meridian Mail prompts, so you may want to suppress the prompts (see point 3) so that the phone lines are not tied up unnecessarily while the prompts are playing.
- 3 Respond No if you do not want the RN/Meridian Mail prompts to play. Respond Yes if you do want the prompts to play.

Note: If a user has selected something other than a phone as the paging device, but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail if the prompts are allowed to play (respond Yes to this parameter prompt).

As a result, you may wish to allow the prompts to play even if the selected paging device is not a phone. If your greater concern is not to tie up the line any longer than necessary, suppress the login prompts by responding No for paging devices other than a phone.

- 4 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Voice Pager (item 3)

These parameters determine how the RN feature works when the selected paging device is a voice pager. A voice pager can play a voice message when the pager is reached and activated.

Table 22-3
RN feature with voice pager

Prompt number	Prompt	Possible values	Default value
1	Silence Detection Timeout (in seconds):	1–30	20
2	Delay before playing Prompts (in seconds):	0–30	0
3	Max Length for Voice Notification:	1–6000	20
4	Skip Greeting Character:	up to 2 digits, 0–9, #, or *	*
5	Delay before sending Skip Greeting Character:	*0–200	100
45	Are these values correct? (Yes/No):	Yes, No	No

* This value is in centiseconds.

The prompts are explained in more detail below.

- 1 The “Silence Detection Timeout” is the length of time RN waits for the paging company to finish its greeting (for example, “*you have reached xxx paging company ...*”) before continuing with the RN procedure. While the paging company’s greeting is playing, the paging company may not be ready to receive the RN message or data. The RN message or data would include the RN greeting (“*Hello, <Custom Call Answering Greeting> has received a message for ...*”) and any other data that is required for this paging device. If the timeout is reached before the paging company’s greeting is done, RN will continue anyway.
- 2 Some paging companies require a delay following the silence detection before receiving the RN/Meridian Mail prompts. Although a voice pager can receive and play a voice message or prompt, it does not allow the user to log in to Meridian Mail.

Note: If a user has selected something other than a phone as the paging device (for example, a voice pager), but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail.
- 3 There are two types of notification possible for a voice pager: notification only, and both the notification and the contents of the voice message. In this field, you specify the maximum length in seconds that a voice message can be played out on a voice pager. The valid range is from 1 to 6000 seconds.
- 4 The Skip Greeting Character field enables you to specify which keypad character is used to skip the greeting of a voice paging system. This skip character is necessary because some paging systems allow a subscriber to record a very long greeting, which may exceed the Silence Detection Timeout limit of 30 seconds on a Meridian Mail system. The valid values are 0 to 9, #, *, and blank. In the TOOLS level, you can instead specify a two-digit skip character (instead of one).
- 5 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Numeric Pager (item 4)

These parameters determine how the RN feature works when the selected paging device is a numeric pager. A numeric pager can display a digital message (callback number).

Note that RN on Meridian Mail sends a predefined callback number to the numeric pager that simply alerts the user that Meridian Mail has a message waiting. The user defines this callback number when setting up remote notification for his or her mailbox.

Table 22-4
RN feature with numeric pager

Prompt number	Prompt	Possible values	Default value
1	Callback Number Prefix:	up to 2 digits, or #, or *	no prefix
2	Callback Number Terminator:	up to 2 digits, or #, or *	#
3	Callback Number Separator:	up to 2 digits, #, *, or blank	*
4	Silence Detection Timeout (in seconds):	1–30	20
5	Delay before sending Callback Number Prefix (in seconds):	0–30	2
6	Delay between sending Prefix and sending Data (in seconds):	0–30	0
7	Delay before playing Prompts or Disconnecting (in seconds):	0–30	3
8	Play Prompts to the paging system? (Yes/No):	Yes, No	Yes
9	Are these values correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

- 1 The Callback Number Prefix is sent to the paging company before the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number prefix).
- 2 The Callback Number Terminator is sent to the paging company after the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number terminator).
- 3 The Callback Number Separator enables you to specify the keypad character used to insert a separator (such as a blank) between the callback number and the caller's number. The valid values are 0–9, #, *, and blank. Its default value is *. You do not need to complete this field if the notification type is Callback only. It is required only if the notification type is Callback and Caller Number (the user receives both the callback number and the caller's primary DN).
- 4 The "Silence Detection Timeout" is how long RN waits for the paging company to finish its greeting (for example, "*you have reached xxx paging company ...*") before continuing with the RN procedure. While the paging company's greeting is playing, the paging company may not be ready to receive the RN greeting and any other data that is being sent to this paging device. If the timeout is reached before the paging company's greeting is done, RN will continue anyway.
- 5 Some paging companies require a delay following the silence detection before receiving the callback information. The value entered for this field is the delay between the silence detection and sending the Callback Number Prefix (or the callback number if there is no prefix).
- 6 For some paging companies that require a Callback Number Prefix, it may be necessary for Meridian Mail to wait a short time after sending the Callback Number Prefix before sending the callback number. The Callback Number Terminator is then sent after the callback number.
- 7 Some paging companies require a delay before receiving the RN/Meridian Mail prompts or disconnecting. A numeric pager is not equipped to receive the RN/Meridian Mail prompts, so you may want to reduce this delay and suppress the prompts (see point 8), so that the phone lines are not tied up unnecessarily while the prompts are playing.

- 8 Respond No if you do not want the RN/Meridian Mail prompts to play. Respond Yes if you do want the prompts to play.

Note: If a user has selected something other than a phone as the paging device, but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail if the prompts are allowed to play (respond Yes to this parameter prompt). As a result, you may wish to allow the prompts to play even if the selected paging device is not a phone. If your greater concern is not to tie up the line any longer than necessary, suppress the login prompts by responding No for paging devices other than a phone.

- 9 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Paging Service (item 5)

These parameters determine how the RN feature works when the selected paging device is a paging service. A paging service requires a Pager Identification Number (PIN) to identify the pager. The PIN is defined when the user sets up RN on his or her mailbox. For a paging service, the callback number is defined by the system administrator using the Outcalling Administration function.

Table 22-5
RN feature with paging service

Prompt number	Prompt	Possible values	Default value
1	Paging Service PIN Prefix:	up to 2 digits, or #, or *	no prefix
2	Paging Service PIN Terminator:	up to 2 digits, or #, or *	#
3	PIN prompt Silence Detection Timeout (in seconds)	1–30	20
—continued—			

Table 22–3 (continued)
RN Feature with voice pager

Prompt number	Prompt	Possible values	Default value
4	Callback Number Prefix:	up to 2 digits, or #, or *	no prefix
5	Callback Number Terminator:	up to 2 digits, or #, or *	#
6	Callback Number Separator:	up to 2 digits, #, *, or blank	*
7	Callback Number Prompt Silence Detection Timeout (in seconds)	1–30	20
8	Delay before sending Prefix (in seconds):	0–30	2
9	Delay between sending Prefix and sending Data (in seconds):	0–30	0
10	Delay before playing Prompts or Disconnecting (in seconds):	0–30	3
11	Play Prompts to the paging system? (Yes/No):	Yes, No	Yes
12	Are these values correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

- 1 The PIN Prefix is sent to the paging company before the PIN is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a PIN prefix).
- 2 The PIN Terminator is sent to the paging company after the PIN is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a PIN terminator).
- 3 The PIN Prompt Silence Detection Timeout is how long RN waits for the paging company to finish its PIN prompt before continuing with the RN procedure. While the paging company's greeting is playing, the paging company may not be ready to receive the next RN data that is being sent to this paging device. If the timeout is reached before the paging company's prompt is done, RN will continue anyway.

- 4 The Callback Number Prefix is sent to the paging company before the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number prefix).
- 5 The Callback Number Terminator is sent to the paging company after the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number terminator).
- 6 The Callback Number Separator enables you to specify the keypad character used to insert a separator (such as a blank) between the callback number and the caller's number. The valid values are 0–9, #, *, and blank. Its default value is *. You do not need to complete this field if the notification type is Callback only. It is required only if the notification type is Callback and Caller Number (the user receives both the callback number and the caller's number).
- 7 The Callback Number Prompt Silence Detection Timeout is how long RN waits for the paging company to finish its callback number prompt before continuing with the RN procedure. While the paging company's callback number prompt is playing, the paging company may not be ready to receive the next RN data that is being sent to this paging device. If the timeout is reached before the paging company's prompt is done, RN will continue anyway.
- 8 Some paging companies require a delay before receiving the PIN or callback information. The value entered for this field is the delay between the silence detection and sending the PIN prefix, and the delay between the callback number prompt (played by the paging service) and sending the Callback Number Prefix.
- 9 For some paging companies that require a PIN prefix or Callback Number Prefix, it may be necessary for Meridian Mail to wait a short time after sending the Prefix before sending the PIN or the callback number. The value entered here is the delay between sending the PIN prefix and sending the PIN, and the delay between sending the Callback Number Prefix and the callback number.

- 10 Some paging companies require a delay before receiving the RN/Meridian Mail prompts or disconnecting. A paging service pager is not equipped to receive the RN/Meridian Mail prompts, so you may want to reduce this delay and suppress the prompts (see point 11) so that the phone lines are not tied up unnecessarily while the prompts are playing.
- 11 Respond No if you do not want the RN/Meridian Mail prompts to play. Respond Yes if you do want the prompts to play.
Note: If a user has selected something other than a phone as the paging device, but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail if the prompts are allowed to play (respond Yes to this parameter prompt). As a result, you may wish to allow the prompts to play even if the selected paging device is not a phone. If your greater concern is not to tie up the line any longer than necessary, suppress the login prompts by responding No for paging devices other than a phone.
- 12 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.
If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Chapter 23: Change console port speed

Console Port Speed Configuration utility

The Console Port Speed Configuration utility (see Figure 23-2) is accessed either through the System Operation Utilities menu on the Install/data tape or the System/Feature Dependent Tools menu (see Figure 23-1) of the MMI. This utility is used to change the administration terminal baud rate.

Note: The Console Port Speed Configuration utility is not available on MSM and Card Option systems.

The Console Port Speed Configuration screen (see Figure 23-2) displays the default console port speed stored in the Non-volatile RAM (NVRAM) of the MMP40 card. The utility permits you to change the speed to either 2400 or 9600 bps.

Figure 23-1
System/Feature Dependent Tools screen

```
Special Tools Package
TOOLS Level Access
System/Feature Dependent Tools

1 Change local site ID      - set the site ID to a new value
2 Transfer voice prompts    - read from/write to tape
3 ACCESS diagnostics        - verify ACCESS link is operational
4 RN Administration         - modify remote notification parameters
5 Console Port              - modify console port speed

Select an item> ____

Exit
```

Note: Other tools may also be listed here depending on your system type or what features are installed.

Figure 23-2
Console Port Speed Configuration screen

```
Console Port Speed Configuration

This utility displays the current setting for the console port and
allows the setting to be reset to 2400 or 9600 bps.

Node 1 Console Port Speed: 9600 bps
Node 2 Console Port Speed: 9600 bps
Node 3 Console Port Speed: 2400 bps
Node 4 Console Port Speed: 9600 bps
Node 5 Console Port Speed: 2400 bps

Do you want to change the console port speed? Yes

Enter node number of console port you want to change: 1

Enter new console port speed (bps): 9600
```

Note: The second prompt is displayed on multi-node systems only.

The following fields are displayed on this screen:

- ***Node X Console Port Speed*** This field indicates the current setting for the console port speed stored in the NVRAM for the indicated node. Values that can be displayed in this field are 2400 and 9600. If the stored value in NVRAM is invalid, the system displays 2400 bps.
- ***Do you want to change the console port speed?*** To exit the utility without changing the console port speed, select NO. Select YES to reset the console port speed to either 2400 or 9600 bps.
- ***Enter node number of console port you want to change*** This prompt is displayed for only multi-node systems. Enter the number of the node being modified. The default value is 1.
- ***Enter new console port speed (bps)*** Enter the appropriate console port speed to reset the value to 9600 or 2400 bps. The default value for this field is 9600.

Note: For node 1 only, this is an online operation, and a system reboot is not required. For non-prime nodes, if an online change is required, use “Modify Hardware” at the TOOLS level. A warning message indicates that the speed of the attached device (terminal or modem) should be adjusted.

Procedure 23-1

Selecting the Console Port Speed Configuration

Starting point: The TOOLS menu

- 1 Select “Other” from the Tools Level Access screen and press <Return>.
- 2 Select “Console Port” and press <Return>.
- 3 Enter “Yes” to the prompt “Do you want to change console port speed?”
- 4 Enter node number being modified at the prompt, “Enter node number of console port you want to change.”
- 5 Enter required port speed (2400 or 9600) at the prompt, “Enter new console port speed (bps).”
- 6 If the change is to the node 1 console, adjust the baud rate in the terminal setup of the connected terminal when prompted.

23-4 Change console port speed

Chapter 24: Synchronize disks

Disk shadowing is a mass storage technique in which the same data is duplicated onto a pair of disks in real time. It is used to

- reduce the chance of data loss and downtime due to disk failure
- double disk read throughput

This feature can be installed on the following system types:

- Modular GP
- Modular Option
- EC
- Option 11 EC
- MSM

It is not available on other systems.

Note: The Disk Synchronization tool is available only on MSM systems. To execute a disk synchronization on the other systems listed above, use the Disk Maintenance option which is documented in the “System Status and Maintenance” chapter in the *System Administration Guide*.

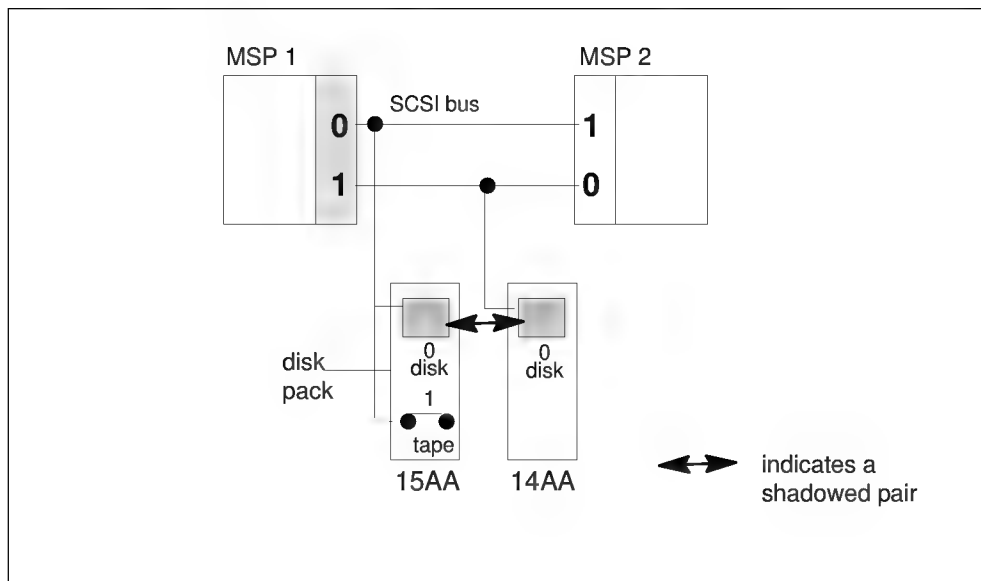
Disk shadowing on an MSM system

This section discusses disk configurations and the various commands associated with disk shadowing on an MSM system.

Disk configurations

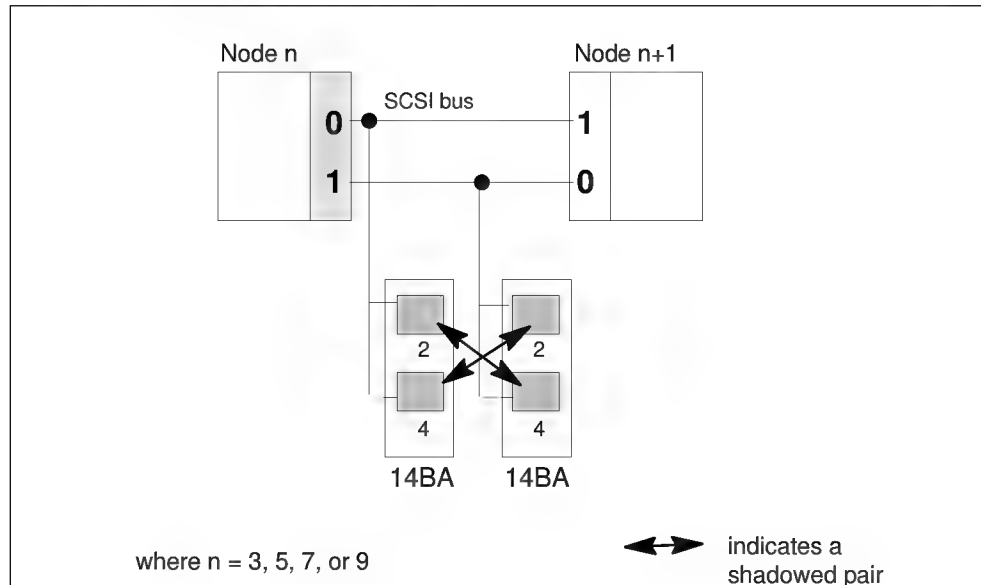
All MSMs come with disk shadowing. The configuration on nodes 1 and 2 is shown in Figure 24-1. The configuration on nodes 3 to 10 is shown in Figure 24-2.

Figure 24-1
MSM configuration on nodes 1 and 2



Note: The “0”s and “1”s are SCSI IDs.

Figure 24-2
MSM configuration on nodes 3 to 10



Note the following:

- Each disk pack contributes a disk to each shadowed pair.
- Each node can access its partner's disk drives as a result of SCSI bus coupling, where node "n+1" and node "n" are partners.

The last point gives rise to the following bus and SCSI device numbering scheme:

- Bus 0 on a node is bus 1 on its partner.
- SCSI IDs normally run from 0 to 7. The device number of a device on bus 0 is simply its SCSI ID. The device number of a device on bus 1 is its SCSI ID plus 8.

Procedure 24-1
Using the Disk Sync Utility

Starting point: The TOOLS menu

- 1 Select Synchronize Disks, then press <Return>.
The command line at the bottom of the screen shows
Type node number
- 2 Enter the node number of the disk that is to be synced, then press <Return>.
After a brief pause, the utility is loaded and the screen returns to the selection menu.
- 3 Press <Control><W>.
The CobraVT window opens.
- 4 Use the cursor keys to move to SYNCDISKS_x, (where x is the node number originally selected) then press <Return>.
- 5 Execute the commands shown under the heading "Commands," which follows.

Commands

All of the following commands print out a return code. 0 indicates normal completion; anything else indicates an error.

enable *src mem*

A shadowed pair is brought online by synchronizing the contents of the two disks that comprise it. This operation is referred to as *syncing* and is started by the enable command.

src specifies the location of the disk pack containing current data. Since there is only one disk pack on a SCSI bus, *src* refers to a bus, and can be either 0 or 1.

The enable command automatically distinguishes between the single-disk AA packs and the dual-disk BA packs. In particular, the enable command will sync both shadowed pairs related to a BA pack.

The enable command automatically checks that the *src* disk is online and that the target disk is large enough to hold the file system of the *src* disk.

mem gives the maximum amount of memory that enable is allowed to use. The default value of 64 kbytes is recommended.



CAUTION
Risk of data loss

Do not set the maximum memory to a value greater than 64 kilobytes on a live system.

fenable *src mem*

This is similar to the *enable src mem* command except that there are no checks for the *src* disk being online and the target disk being large enough to hold the file system from the *src* disk.



CAUTION
Risk of data loss

Syncing from the wrong source will result in lost data. Also, syncing is usually done from disk packs with enabled disks unless you are trying to clear SEER 6608.

The *enable* command automatically checks that the *ss* disk is online and that the *dd* disk is large enough to hold the file system of the *src* disk.

enable -1 *ss dd mem*

This form of the *enable* command syncs a given disk pair and is invoked by specifying -1 for *src*. *ss* is the device number of the disk to sync from, *dd* is the device number of the disk to sync to, and *mem* is the maximum amount of memory allowed.

fenable -1 *ss dd mem*

This is similar to the *enable -1 ss dd mem* command except that there are no checks for the *ss* disk being online and the *dd* disk being large enough to hold the file system from the *ss* disk.

disable *id*

A disk in a shadowed pair can be taken off-line either by the system (automatically, in the event of a failure) or by the *disable* command (manually). The first method sets off a major alarm, the second does not.

find *id*

id is the number of the device to be checked. If this device is a disk, it will be spun up and its size (in 512-byte blocks) will be printed. This command

may be used to verify that a node is able to communicate with all of its disks.

fsize *id*

This command displays the size of the file system (in 512-byte blocks) for the device specified by *id*. The device must be online. If it is not online, an error will be returned.

info *node*



CAUTION
Risk of data loss

Do not sync from both members of a node pair at the same time.

This command displays a summary of a node's view of its disks. This information can be used to check if the node's disks are in sync (both disks enabled), if a node's view of its disks is consistent with its partner's view, and how the disk space is partitioned into regions. (The "About disks" section in the "SCSI_UTIL" chapter discusses in more detail how disk space is partitioned into regions.)

For example, on node 3 of an MSM, one might get the following output:

```
node 3

disk pair 0
boot region:      32-2031
file region:      2032-2936592
disk 2: RW
disk 12: RW

disk pair 1
boot region:      32-2031
file region:      2032-2936592
disk 10: —
disk 4: RW
```

Both disks in a disk pair are enabled and in sync when the "disk *n*:" fields both show "RW". "RW" indicates that the disk has both Read and Write capability enabled. "R—" indicates Read only, while "—W" indicates Write only. "—" indicates that neither Read nor Write capability has been

enabled. The value in the “disk *n*.” fields is also referred to as the disk’s state.

Also, a node can access the same disks as its partner, where node “*n*+1” and node “*n*” are partners. Following our example, node 4 accesses the same disks as node 3:

node 4

disk pair 0

boot region: 32–2031

file region: 2032–2936592

disk 2: —

disk 12: RW

disk pair 1

boot region: 32–2031

file region: 2032–2936592

disk 10: RW

disk 4: RW

Notice from the disk states that disk pair 0 on a node is disk pair 1 on its partner. In the example above, disk pair 0 on node 3 (disk 2 and disk 12 from the node 3 perspective) is the same as disk pair 1 on node 4 (disk 10 and disk 4 from the node 4 perspective).

init

This command should be used to put the system back into a normal state if a sync operation is interrupted.

node

This command displays the ordinal number of the node that this utility is running on.

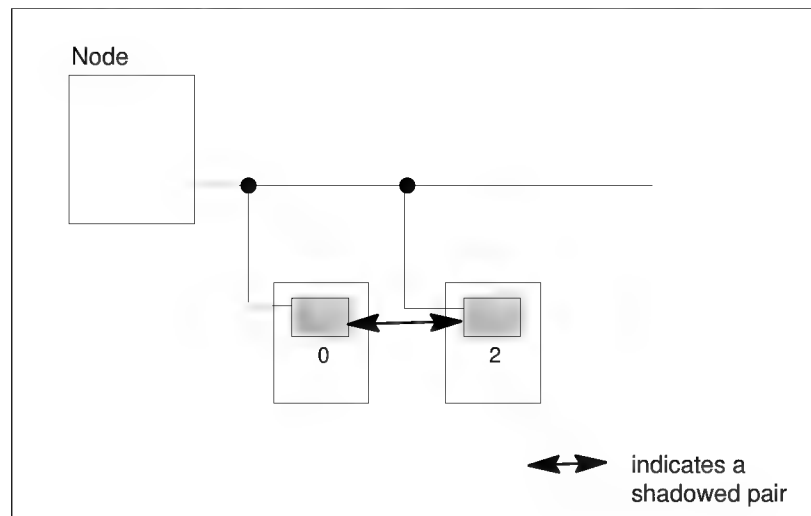
Disk shadowing on Modular GP, Modular Option, EC, and Option 11 EC systems

This section discusses disk configurations and the various commands associated with disk shadowing on Modular GP, Modular Option, EC, and Option 11 EC systems.

Disk configurations

If disk shadowing is present, the disk configuration is as shown in Figure 24-3.

Figure 24-3
Disk configuration for Modular GP, Modular Option, EC,
and Option 11 EC



Commands

All of the following commands print out a return code. 0 indicates normal completion; anything else indicates an error.

enable *src dst mem*

A shadowed pair is brought online by synchronizing the contents of the two disks that comprise it. This operation is referred to as syncing and is started by the enable command.

src specifies the SCSI ID of the disk containing current data. When installing disk shadowing for the first time, this would be the drive that was there. When replacing a failed drive, this would be the surviving drive.

For Meridian Mail Modular GP, Modular Option, EC, and Option 11 EC systems, disks are individually replaced. As a result, *src* refers to a disk and can be either 0 or 2.

The enable command automatically checks that the *src* disk is online and that the *dst* disk is large enough to hold the file system of the *src* disk.

dst specifies the SCSI ID of the drive to be brought online.

mem gives the maximum amount of memory that enable is allowed to use. The default value of 64 kilobytes is recommended.



CAUTION Risk of data loss

Do not set the maximum memory to a value greater than 64 kilobytes on a live system.

fenable *src dst mem*

This is similar to the enable *src dst mem* command except that there are no checks for the *src* disk being online and the *dst* disk being large enough to hold the file system from the *src* disk.



CAUTION Risk of data loss

Syncing from the wrong source will result in lost data.

disable *id*

A disk in a shadowed pair can be taken offline either by the system (automatically, in the event of a failure) or by the disable command (manually). The first method sets off a major alarm, the second does not.

find *id*

id is the number of the device you want to check. If this device is a disk, it will be spun up and its size (in 512-byte blocks) will be printed. This command may be used to verify that a node is able to communicate with all of its disks.

fsize *id*

This command displays the size of the file system (in 512-byte blocks) for the device specified by *id*. The device must be online. If it is not online, an error will be returned.

info *node*

This command displays a summary of a node's view of its disks. This information can be used to check if the node's disks are in sync (both disks enabled), and how the disk space is partitioned into regions. The "About disks" section in the "SCSI_UTIL" chapter discusses in more detail how disk space is partitioned into regions.

Both disks are enabled and in sync when the "disk *n*:" fields both show RW. RW indicates that the disk has both Read and Write capability enabled. R— indicates Read only, while —W indicates Write only. "—" indicates that neither Read nor Write capability has been enabled. The value in the "disk *n*:" fields is also referred to as the disk's state.

For example, on node 1 of an EC system, one might get this output:

node 1

disk pair 0

boot region: 32–2031

file region: 2032–665153

disk 0: RW

disk 2: RW

Disk 0 and disk 2 both have Read and Write (RW) capability enabled, so they are both enabled and in sync.

init

This command should be used to put the system back into a normal state if a sync operation is interrupted.

node

This command displays the ordinal number of the node that this utility is running on.

24-12 Synchronize disks

Chapter 25: Clone disk

The Clone Disk tool allows you to copy the contents of a node's disk onto a secondary disk drive. This tool can be used for any procedure that requires the technician to copy the contents of one disk onto another (for example, when replacing a faulty disk, performing a platform migration, or performing a storage expansion).

Note: Both platform migration and storage expansion are part of the new comprehensive upgrade feature for Release 12. For more information, see the *System Installation and Modification Guide* (NTP 555-7001-215).

For these procedures, disk cloning is a faster alternative to backing up onto a backup tape, and then loading the information back onto the new disk.

The Clone Disk tool is not intended to replace regular tape backups, but is available to speed up procedures that would otherwise require a backup and restore from tape. The cloning process takes approximately nine minutes for a 300-Mbyte disk, 30 minutes for a 600-Mbyte disk, 13 minutes for a 1.0-Gbyte disk, or 40 minutes for a 2.0-Gbyte disk.

The Clone Disk tool automatically checks that the node's disk has a valid file system, and that the disk being cloned to the secondary disk drive is large enough to hold the file system of the node's disk.

ATTENTION

This tool is supported only on unshadowed Modular Option, Modular Option GP, Modular Option EC, and Option 11 EC systems with a specific minimum vintage (see “Hardware and software requirements” in this chapter). Shadowed systems do not need to use this tool. (For details on disk shadowing, see the *Installation and Maintenance Guide* [NTP 555-70x1-250]).

This tool is intended for use by technicians. A secondary disk drive must be inserted into each node to be cloned in the Meridian Mail system (as described in this chapter), and this should be done by a technician.

Example applications for disk cloning

A storage expansion requires that you copy the contents of the existing disk onto a larger disk. Instead of backing up the existing disk to tape, use the Clone Disk tool to copy (clone) the existing disk’s contents directly onto the new disk. Then run Comprehensive Upgrade from the Install/data tape (see the *System Installation and Modification Guide* [NTP 555-7001-215]). When you reach the step that asks you to install the new disk drive, insert the disk drive to which you just cloned.

Another application for disk cloning is the situation where you have a faulty disk drive, but the data has not been corrupted. As long as the data is okay, you can clone the faulty disk onto a replacement disk.

And, as stated, disk cloning can also be used for any other procedure that requires copying the contents of a disk onto a new disk.

Hardware and software requirements

The hardware and software minimum vintage requirements for disk cloning are the same as those for the Disk Shadowing feature.

Refer to the Meridian Mail *Installation and Maintenance Guide* (NTP 555-70x1-250) for details on Disk Shadowing requirements. The additional hardware required to satisfy the hardware requirements does not have to stay connected to the system after the disk cloning operation has been completed.

The secondary disk drive that you are copying to should be a standard disk drive on an EC disk drive plate for EC and Option 11 EC systems, or housed in a Modular Option MSU cage for Modular Option or Modular Option GP systems.

For most of the systems that allow disk cloning, the procedure involves inserting a secondary disk drive into the free slot on the node that you wish to clone. The exception is nodes 1 and 3 on a 3-, 4-, or 5-node EC system. These nodes do not have a free disk slot, so a different procedure is required for this system type. The specific procedure required for each system type is discussed in the “Disk cloning procedures” section later in this chapter.

Prior to inserting the secondary disk drive, power-off the node or the system as specified in the relevant procedure.

**CAUTION****Risk of severe data corruption**

Severe data corruption on the original (prime) disk will occur if you do not turn off the power on the node before you insert the secondary disk drive.

Disk cloning procedures

Use Procedure 25-1 for

- Nodes 1 and 3 on a 3-, 4-, or 5-node EC system (for nodes 2, 4, and 5, use Procedure 25-2).

Use Procedure 25-2 and then Procedure 25-3 for the following system types:

- Modular Option
- Modular Option GP
- Modular Option EC, 1- and 2-node systems
- Nodes 2, 4, and 5 on a 3-, 4-, or 5-node EC system
- Option 11 EC

Procedure 25-1

Cloning nodes 1 and 3 on a 3-, 4-, or 5-node EC system

Note: Before beginning this procedure, label the secondary disk drives (and the original or prime disk drives if they are not labeled) with the node number and “original” or “secondary,” as well as the date and time. The disk cloning procedure involves removing and reinserting disks, and the labels will prevent confusion when you need to reinsert the original disks (or the secondary disk if you are replacing a disk).

- 1 Courtesy down the system.
This step is optional, and ensures that active calls are not dropped.
- 2 Power off the system.
- 3 On the backplane of the first module (module 0), set switch 1, 2, 3, and 4 for a shadowed system. Leave switch 5 as it is. For more detailed instructions for this step, refer to the *Installation and Maintenance Guide*.
- 4 Remove node 3's disk drive from the upper left disk drive slot.
- 5 If you are cloning node 1, go directly to step 6. If you are cloning node 3, then remove the disk drive from node 1 and replace it with the disk drive from node 3. Now go to step 6.

Note: In this procedure, the disk that you are cloning (copying) must always be in the lower left disk drive slot and have the SCSI ID set to 0. Since the disk you are cloning is one of the original disks, the SCSI ID should already be set to 0. If you are not sure, check the SCSI ID setting. The secondary disk drive (that you are writing to) must always be in the upper left disk drive slot and have the SCSI ID set to 3. The “SCSI ID settings” section at the end of this chapter shows how to set the SCSI ID to 0 or 3 for various types of disk drives.

- 6 Remove the terminating resistors from the secondary disk drive and set the SCSI ID to 3. You must remove the disk drive from the bracket to remove the terminating resistors.

The Installation and Maintenance Guide includes diagrams showing where to find the terminating resistors. The “SCSI ID settings” section at the end of this chapter shows how to set the SCSI ID to 3.

Note: Use extreme caution when performing this step.

- 7 Insert the secondary disk drive into the upper left disk drive slot (where node 3's disk is normally located).
- 8 Insert the Install/data tape into the tape drive.

- 9 Boot the system from tape.
- 10 Select **Exit to Support Level** from the tape menu.
- 11 Type **clonedisk** at the command line and press return.

A screen display (see Figure 25-1) confirms the existence of the two disk drives on its SCSI Bus (ID's 0 and 3). SCSI ID=0 is the disk that you are copying. SCSI ID=3 is the secondary disk drive to which you are writing.

Figure 25-1
Disk cloning screen when booting from tape

```

Disk Cloning Utility on Node 1

This utility will copy the contents of the disk with SCSI ID 0 to
the disk with SCSI ID 3

Disk SCSI ID = 0
vendor: CDC
product: 94171-9
revision: 2347
Found 1100K filesystem on 1150K source disk

Disk SCSI ID=3
vendor: SEAGATE
product: ST11200N
revision: 9300
Cloning from 1100K filesystem on 1100K target disk

This is a block by block copy of data from ID 0 to ID 3
This will destroy any data on the disk with SCSI ID 3

Do you wish to continue? Yes
.
.
.
Disk cloning has been successful

Power off system, reconfigure disks & reboot into full service

```

The screen display ends with the following prompt:

Do you wish to continue? No

The default response No is displayed. Use the up or down arrow keys to change the response to Yes if you wish to continue.

- 12 If there has been an error accessing the disks or if the technician has answered No to the "continue" prompt, then the contents of both disks are not changed and a screen message instructs the technician on how to continue. To end this procedure, ignore this message and go to step 18 for more detailed instructions on how to return the system to its original setup.

- 13 If the technician has answered Yes to the "continue" prompt, then the contents of the original disk (SCSI ID=0) are copied to the secondary disk (SCSI ID=3). The cloning process will take approximately 9 minutes for a 300 Mbyte disk, 30 minutes for a 600 Mbyte disk, 13 minutes for a 1.0 Gbyte disk, or 40 minutes for a 2.0 Gbyte disk.
- 14 If an error occurs during the cloning operation, error return codes are displayed. See *Maintenance Messages (SEERS)* (NTP 555-7001-510) for more detailed information on return codes.

On the terminal there will be a final message indicating the success or failure to clone the original disk. Also, whether the disk cloning has succeeded or failed, a screen message will appear that directs the technician to power off, reconfigure the disks as they were, and reboot into full service.
- 15 Ignore this screen message and proceed to step 16 for more detailed instructions on how to proceed.
- 16 If you are finished cloning or if the cloning was not successful, go to step 18.

If the cloning was successful and you now want to clone the other node (node 1 or 3), then go to step 17 (do not reboot at this time).
- 17 If you have just cloned node 1's disk and you now want to clone node 3's disk, then perform the following steps:
 - a. Power off the system and then remove the secondary disk drive.
 - b. Remove node 1's disk and replace it with node 3's original disk.
 - c. Have a new secondary disk drive nearby that you can use for cloning node 3's disk.
 - d. Repeat steps 6 to 16.

If you have just cloned node 3's disk and you now want to clone node 1's disk, then perform the following steps:

 - e. Power off the system and then remove the secondary disk drive.
 - f. Remove node 3's disk from node 1.
 - g. Insert node 1's original disk back into node 1.
 - h. Repeat steps 6 to 16.
- 18 After all cloning is completed on node 1 or node 3, or both, or if the cloning failed and you want to stop this procedure, follow these steps:
 - a. Power off the system.
 - b. Remove the secondary disk from the upper left disk drive slot.
 - c. Reconfigure the switch settings on the backplane of the first module to be an unshadowed module.

- d. Place the node 1 and node 3 disk drives in their appropriate disk drive slots. If you are replacing a disk, set the SCSI ID to 0 on the replacement disk (the disk you cloned to), and insert the replacement disk in place of the original disk.
- e. Remove the Install/data tape from the tape drive.
- f. Boot the system into full service.

Procedure 25-2**Cloning nodes 2, 4, and 5 on a 3-, 4-, or 5-node EC system, and any nodes on Modular Option, Modular Option GP, and 1- and 2-node EC and Option 11 EC systems**

Note: Before beginning this procedure, label the secondary disk drives (and the original disk drives if they are not labeled) with the node number and “original” or “secondary,” as well as the date and time.

- 1 Courtesy down the system.
This step is optional, and ensures that active calls are not dropped.
- 2 Power off the system.
Note: Some Modular Option systems may have the disk drive in one MSU slot and the tape drive in the other MSU slot on the same node. If this is the case for the node you are cloning, remove the tape drive after you have powered off the node. At the end of Procedure 25-3, you will be instructed to reinsert the tape drive.
- 3 On EC systems, set switch 1, 2, 3, and 4 for a shadowed system on the backplane of each module containing a node to be cloned. Leave switch 5 as is.
- 4 Set the SCSI ID of the secondary disk drive to 3 and remove the terminating resistors. The “SCSI ID settings” section at the end of this chapter shows how set the SCSI ID to 0 or 3 for various types of disk drives.
- 5 Place the secondary disk drive in the free slot on the node to be cloned. On an EC system, place the secondary disk drive in the free disk slot directly above the original disk.
- 6 Repeat step 2, 4, and 5 for each node to be cloned. You can clone up to 3 nodes at one time. If you are cloning more than one node at one time, you will need a secondary disk drive for each node that you plan to clone.
- 7 The section “Using the Clone Disk tool” in this chapter and Procedure 25-3 describe the remaining steps in this disk cloning procedure.

Using the Clone Disk tool

If you have just completed Procedure 25-2, you need to access the Clone Disk tool from the TOOLS Feature Dependent menu to complete the disk cloning. See Procedure 25-3 for the remaining steps in the disk cloning procedure.

Procedure 25-3 Cloning a disk

Starting point: The TOOLS menu

- 1 Select "Other" from the Tools Level Access screen and press <Return>.
- 2 Select Clone Disk from the TOOLS Feature Dependent menu, and press <Return>.

The system prompts:

Type node number (1 if single node) 1

The default response (1) is displayed.

Note: Prior to selecting this tool, the technician must power off the node and insert a secondary disk drive into the free disk slot for each node to be cloned as described in Procedure 25-2.

- 3 Enter the node number that you are cloning and press <Return>.

The Clone Disk tool screen is displayed.

Note: If you do not wish to clone any other nodes at this time, go to step 7.

- 4 Press <Control><W> to open the CobraVT window.
- 5 Use the arrow keys to select the MMI, then press <Return>. Go to step 2.

Note: Continue this process for each node that you wish to clone. You can clone up to three nodes at a time.

- 6 To display the Clone Disk tool for each node, do the following.
 - a. Press <Control><W> to open the CobraVT window.
 - b. Use the arrow keys to select CLONEDISK_n, where n is one of the nodes entered in step 3.
 - c. Press <Return>.

Figure 25-2
Disk cloning screen when accessed through the TOOLS menu

```

Disk Cloning Utility on Node 1

This utility will copy the contents of the disk with SCSI ID 0 to
the disk with SCSI ID 3

Disk SCSI ID = 0
vendor: CDC
product: 94171-9
revision: 2347
Found 1100K filesystem on 1150K source disk

Disk SCSI ID=3
vendor: SEAGATE
product: ST11200N
revision: 9300
Cloning from 1100K filesystem on 1100K target disk

This is a block by block copy of data from ID 0 to ID 3
This will destroy any data on the disk with SCSI ID 3

Do you wish to continue? Yes
:
:
Disk cloning has been successful

Press enter to continue

```

Note: A SEER with the message “device 3> reuse Key:6 error code:41” may appear in the Disk Cloning screen. This message is the result of a new disk being detected in the normally empty disk drive slot. When using this tool, you can ignore this message.

A description of the cloning process is displayed on the screen (see Figure 25-2). The screen display will confirm the existence of the two disk drives on its SCSI Bus (ID's 0 and 3). SCSI ID=0 is the disk that you are copying. SCSI ID=3 is the secondary disk to which you are writing.

- 7 The screen display ends with the following prompt:

```
Do you wish to continue? No
```

The default response No is displayed. Use the up or down arrow keys to change the response to Yes if you wish to continue.

Note: If there has been an error accessing the disks or if you have answered No to the “continue” prompt, then the contents of both disks do not change and a screen message instructs you to “press Enter to continue.”

- 8 Press <Return> to refresh the MMI screen.

To end the procedure (if there has been an error or if you do not want to continue), go to step 12.

- 9 If the technician has answered Yes to the “continue” prompt, then the contents of the original disk (SCSI ID=0) are copied to the secondary disk (SCSI ID=3). The cloning process will take approximately 9 minutes for a 300-Mbyte disk, 30 minutes for a 600-Mbyte disk, 13 minutes for a 1.0-Gbyte disk, or 40 minutes for a 2.0-Gbyte disk.

If an error occurs during this cloning operation, error return codes are displayed. See *Maintenance Messages (SEERS)* (NTP 555-7001-510) for more detailed information on return codes.

In the CLONEDISK_n window, there will be a final message indicating the success or failure to clone the original disk on node n.

Whether the disk cloning succeeded or failed, the following prompt is displayed:

Press enter to continue

- 10 Press <Return> to refresh the MMI screen. The CLONEDISK_n window is automatically removed from the CobraVT window.

Note: If the disk cloning failed, or if all the nodes that require cloning have been completed, go to step 12. Otherwise, go to step 11.

- 11 Repeat steps 6 through 10 for each node you are attempting to clone.

- 12 After all cloning is completed (or if you need to end this procedure because of an error during the disk cloning operation), follow these steps:

- a. Power off the system.
- b. Remove the secondary disk drives that were inserted as part of the cloning procedure.

Note: The secondary disk drives should not be left in the system. This setup will not act as disk shadowing.

- c. For EC systems, reconfigure the switch settings on the backplane for an unshadowed module for each module where cloning was done.
- d. If you are planning to use the secondary disk drive (to which you just cloned) to replace the original disk drive for a particular node, reset the SCSI ID to 0 on the secondary disk drive. Then remove the original disk drive and replace it with the secondary disk drive.

Note: Depending on the type of disk drive, you may also need to put the terminating resistors back onto the secondary disk drive. Refer to the *Installation and Maintenance Guide* for details.

- e. For Modular Option and Modular Option GP systems, if you had to remove a tape drive on a node to free up an MSU slot, then reinsert the tape drive.
- f. Boot the system into full service.

SCSI ID settings

The figures in this section indicate how to set the SCSI ID to 0 or to 3 on various types of disk drives.

Figure 25-3
300 Mbyte Seagate ST1480 disk drive—SCSI IDs for disk cloning

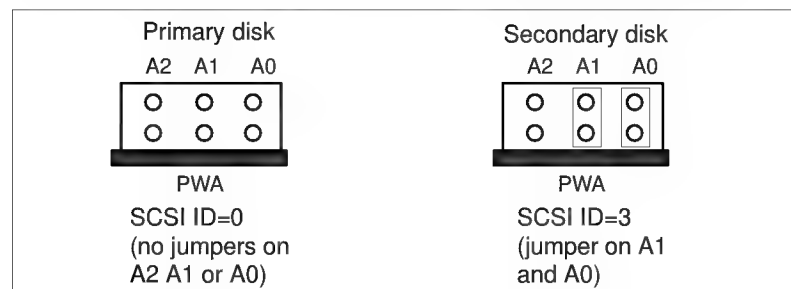


Figure 25-4
300 Mbyte Seagate ST3390N disk drive—SCSI IDs for disk cloning

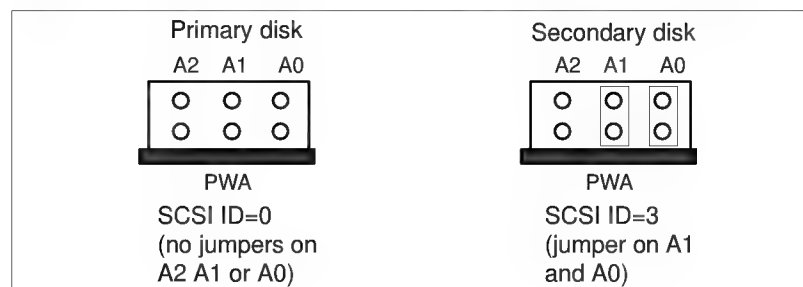


Figure 25-5
300 Mbyte Maxtor LXT340SY disk drive—SCSI IDs for disk cloning

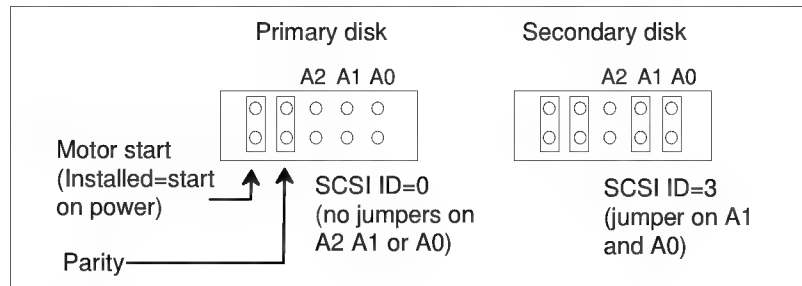


Figure 25-6
365 Mbyte Quantum L365 disk drive—SCSI IDs for disk cloning

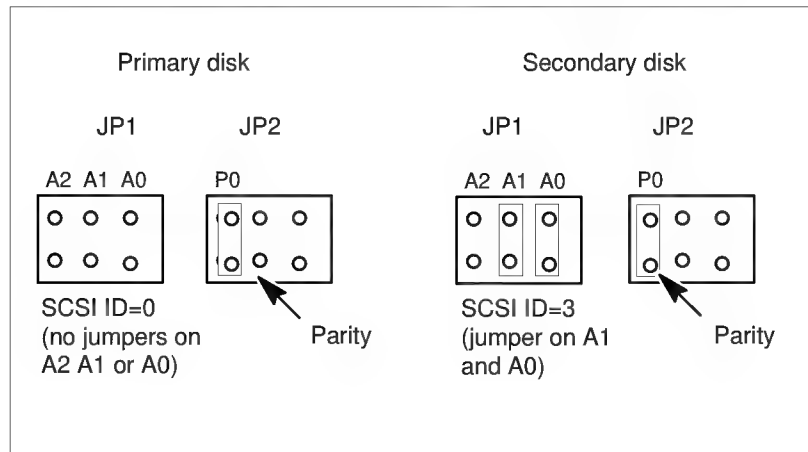


Figure 25-7
600 Mbyte Seagate, Wren V, model 94181 or ST4702N disk drives—
SCSI IDs for disk cloning

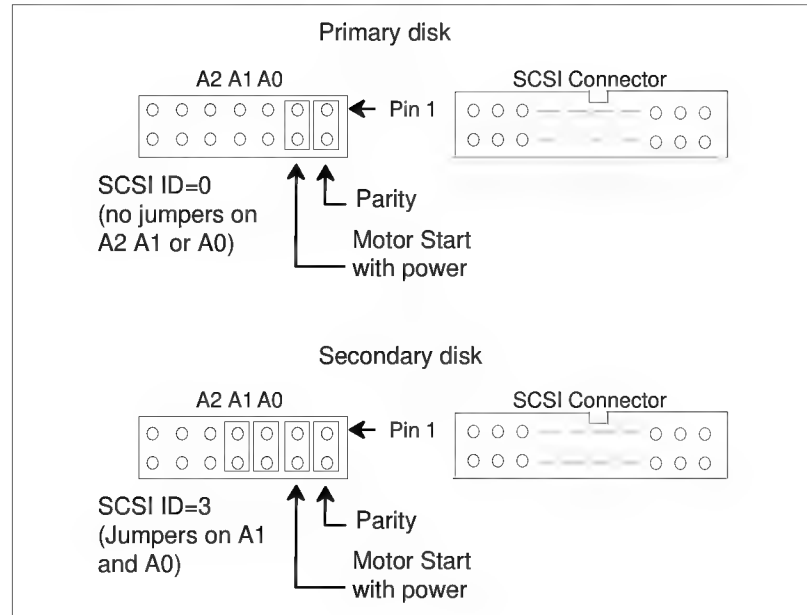


Figure 25-8
600 Mbyte Maxtor XT8760S disk drive—SCSI IDs for disk cloning

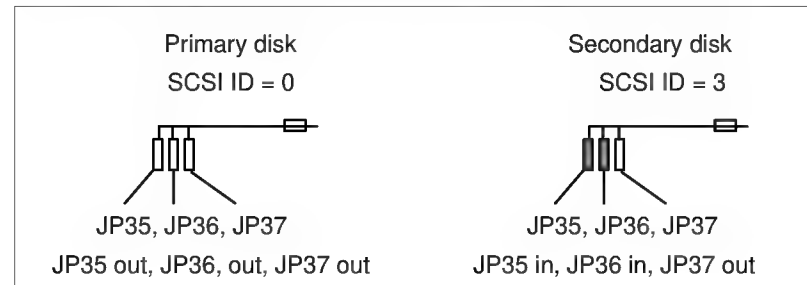


Figure 25-9
1.2 Gbyte Seagate ST11200N and ST31230N disk drives—SCSI IDs for disk cloning

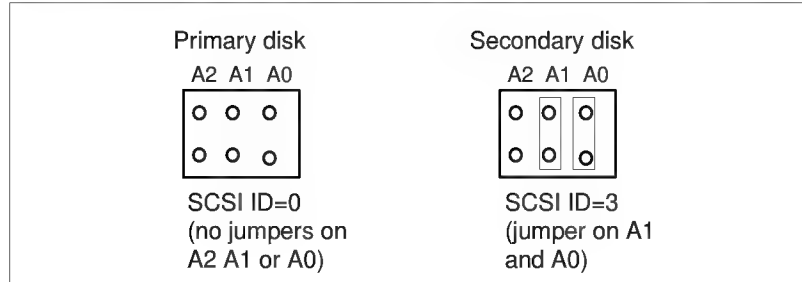


Figure 25-10
1.2 Gbyte Maxtor MXT1240S disk drive—SCSI IDs for disk cloning

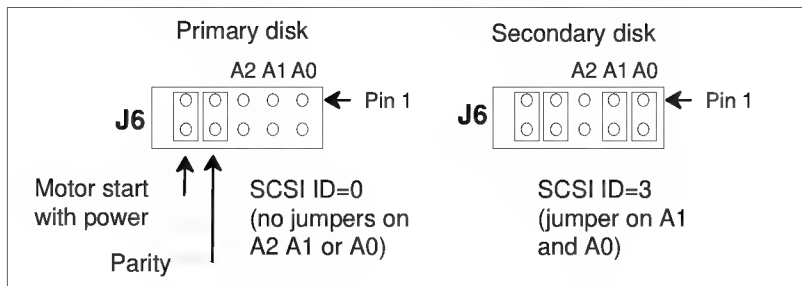


Figure 25-11
1.0 Gbyte DEC DSP3107L disk drive—SCSI IDs for disk cloning

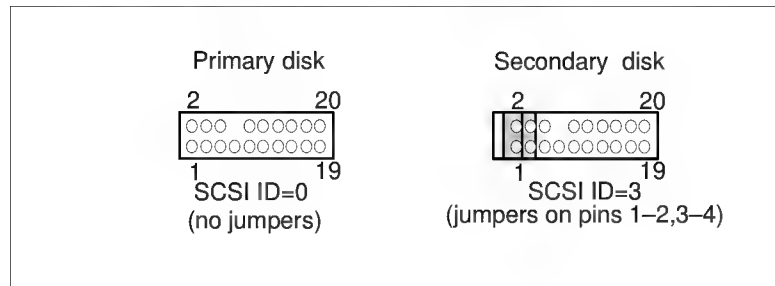
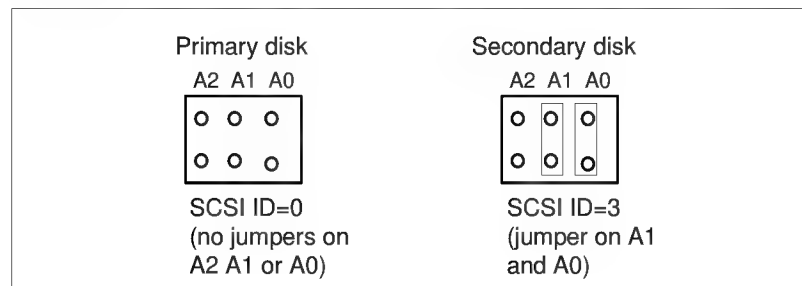


Figure 25-12
2.0 Gbyte Seagate ST32120N and ST32151N disk drives—SCSI IDs for disk cloning



Chapter 26: AD_UTIL

The Administration Utility (AD_UTIL) program allows you to access and modify both personal and organization (system and customer) profiles. The regular system administration facility should always be used to add, modify, and delete users. However, if necessary, this utility can be used to modify and delete local voice messaging users (including NMS users) if you are unable to do so through the system administration interface.

**CAUTION****Risk of system corruption**

Some of the commands in AD_UTIL allow you to override restrictions imposed by the system administration facility, which may affect system performance.

Unlike the regular system administration facility, some knowledge of the system's file structure is necessary in order to use some of the commands in AD_UTIL.

Notation

When referring to the command syntax examples, use the following examples as a guide.

<xxx> means users substitute their own text, and the parameter is required

<xxx> | <yyy> means one out of the group must be entered

[<xxx>]	mean the users substitutes their own text, and the parameter is optional
“xxx”	means the text must be entered as shown

System profile versus Customer profile

On each system, there is always only one system profile. For each customer defined on the system, one customer profile exists. Most of the data records that exist in the system profile also exist in the customer profile, and vice versa.

In each record there are various data fields. Some of these data fields are “system-related” while the rest are “customer-related” data fields. In the system profile, only the system-related data fields contain valid values; all other field values are considered meaningless. In the customer profile, only the customer-related data fields contain valid data; all other field values are considered meaningless. Furthermore, some records exist only in the system profile, while other records exist only in the customer profile.

When using the commands OPVIEW and OPMOD (described later in this chapter), you have the choice of retrieving the data from either the system profile, the specified customer profile, or from both the system and the specified customer profile. If the last option is specified, then a combined view of the profiles will be presented to you (that is, all system-related fields in a record will get their values from the system profile, while all customer-related fields in the same record will get their values from the specified customer profile). This is how the regular system administration facility usually retrieves the data.

However, some fields in the profiles are relevant to both the system and the customer profiles. In these cases, when a combined retrieval is performed, the values for those fields are taken from the customer profile. A good example of this is the feature array. In the system profile, only features installed on the system are stored in that array. In the customer profile, only features accessible to the customer are stored in that array. When a combined view is requested, the value for the array is retrieved from the customer profile (that is, system features not accessible to the customer will not be displayed), as the basic layer assumes you are retrieving data from the point of view of the specified customer. Otherwise, you would have specified only the system profile.

If you specified that you wanted to retrieve data strictly from the system profile, keep in mind that some of the data you are viewing is meaningless.

This is also true if you have specified to only retrieve data from the specified customer profile.

Parameters

The commands in AD_UTIL require parameters. AD_UTIL will prompt you if you fail to supply a parameter upon entering a command.

If the parameter has a default value, that value appears as part of the prompt. Press <Return> to enter the default value or backspace over the value to enter a new one. If a default value is not displayed with the prompt, then a value must be specified.

Type **help** at any time to see a list of the available commands. Type **help command** (where command is a command name) to access information on a specific command.

Organization profile commands

The following commands allow you to manipulate the organization profiles.

OPView <AccessType> [<CustNum>]

OPView is used to view organization (system and/or customer) profiles, allowing you to view each profile record separately. It prompts you for the type of file access you want to perform. The available types are:

- combined
- system_only
- customer_only

Depending upon the file access type, the view of the profile(s) will differ. See the introduction to this chapter for an explanation of the differences between the different types of file access. You will be prompted for the customer number, unless you specified “system_only” as the access type. Enter the customer number of the customer that you want to view.

After entering all of the required parameters, the following prompt is displayed:

PROMPT: Basic? (Quit, N, P, <record>, <cr>) Yes

OPView prompts the user to view the record at which OPView is currently positioned. You can scroll through the various records within the profile by

entering **N** to go to the next record, and **P** to go to the previous record. You can also go to a specific record by entering its name.

To list all of the options for this prompt, enter **?**. To view the specified record, enter **Yes** (followed by <Return>). After viewing a record, you are prompted to view the next record (identified by the system). To quit OPView, enter **Q**.

OPMod <AccessType> [<CustNum>]

OPMod is used to modify organization (system and/or customer) profiles, allowing you to modify each profile record separately. It prompts you for the type of file access you want to perform. The available values are:

- combined
- system_only
- customer_only

Depending upon the file access type, the view of the profile(s) will differ. See the introduction to this chapter for more information. You will be prompted for the customer number, unless you specified the access type of system_only. Enter the customer number of the customer you want to modify. After entering all of the required parameters, the following prompt is displayed:

PROMPT: Basic? (Abort, Write, N, P, <record>, <cr>) Yes

OPMod prompts the user to modify the record at which OPMod is currently positioned. You can scroll through the various records within the profile by entering **N** to go to the next record, and **P** to go to the previous record. You can also go to a specific record by entering its name.

To list all the options to this prompt, enter **?**. To view the specified record, enter **Yes** (followed by <Return>). Each field in the record can then be line-edited. Edited fields are validated to ensure that valid data was entered. If you enter invalid data, the change is not made to the field. Once a record is completely edited, you are prompted to proceed with the next record (identified by the system).

To save the changes made to the profile(s), enter **write** at the next prompt. This saves the changes made to ALL records, not just the current record. It also exits OPMod. To abort the changes and quit OPMod, enter **abort**. This cancels ALL changes made, and exits OPMod.

Sometimes you are prompted to enter a series of related string fields in OPMOD. If you only want to modify one field in the entire series and it is at the start of the series, you could modify it and then press <Return> for all other fields until the end is reached. However, this method is time consuming. A shortcut is to enter the value for the field of interest, and when prompted for the next field, enter a nil string. This bypasses all the other related fields. Note that a nil string is "" (that is, no space), not ' '. If you are using this shortcut, and you want to erase the content of a string field, enter a <space> in the field, that is, ' '. If you simply erased the field but did not enter a <space>, then the field will retain its original value and your input will be interpreted to mean that all other related string fields should be bypassed.

An example of the above is the switch records in the system profile. There may be multiple switch records in the profile; the number is directly related to the number of switches the system is connected to. For example, there are five switch records and the one that needs to be modified is the second one, which happens to be a ROLM switch record (only the ROLM switch prompts you for the various switch codes). Simply press <Return> for all the fields in the first switch record to bypass them. Modify whatever needs to be changed in the second switch record.

When prompted to enter a code, enter a string if you want to enter a value; a <space> if you want to erase what is currently defined; a <Return> if you want to keep the current value; or a nil string if you want to move on to the next organization record (a nil string exits the modify-switch-record sequence altogether). Note that if you want to move to the next field and the current field contains a nil string, you must enter a <space>. If you simply press <Return>, you will go to the next organization record.

Personal profile commands

The following commands allow you to manipulate a personal profile.

SetCust <CustNum>

SetCust allows you to select the customer that you want to work with. This command is used before using the PPView, PPMoD, and DelUser commands. For example, if there are various customer groups on the system and you want to work with customer group 5, enter **SetCust 5**. From this point on, all users that you access will only be from customer group number 5.

SetLocation <Location Code Prefix>

SetLocation is used to set the default location prefix for viewing or modifying users.

Key “MailBoxNumber” / “UserID” / “ClientID”

Key is used to set the retrieval key for viewing, modifying, or deleting personal profiles. (This key is the first parameter in PPView or PPMoD.) The retrieval key can be set to the MailBoxNumber, UserID, or ClientID. The default is UserID. This key is used in PPMoD, PPView, and DelUser. For example, if the key is set to UserID when the command PPView is entered, it will prompt for the UserID of the user profile to be viewed. It is often useful to retrieve by means of the MailBoxNumber since the box number is typically the user’s extension number.

PPView <MailBoxNumber> / <UserID> / <ClientID>

PPView is used to view the personal profile of a user. It does not allow the profile to be modified. It requires either the user’s UserID, ClientID, or MailBoxNumber to be entered depending on what the retrieval key is set to.

The profile consists of several records which PPView allows you to view separately. Once the user’s profile is retrieved, it displays the following prompt:

PROMPT: Basic? (Quit, N, P, <record>, <cr>) Yes

PPView prompts you to view the record at which PPView is currently positioned. You can scroll through the various records within the profile by entering **N** to go to the next record, and **P** to go to the previous record. You can also go to a specific record by entering the name of the record.

To list all the options to this prompt, enter **?**. To view the record, enter **Yes** <Return>. After a record is viewed, you are prompted to view the next record (identified by the system). To quit PPView, enter **Q**.

PPMod <MailBoxNumber> / <UserID> / <ClientID>

PPMod is used to modify a personal profile. It requires either the user's UserID, ClientID, or MailBoxNumber, depending on what the retrieval key is set to. Once the user's profile is retrieved, it displays the following prompt:

PROMPT: Basic? (Abort, Write, N, P, <record>, <cr>) Yes

PPMod prompts the user to edit the record at which PPMOD is currently positioned. You can scroll through the various records within the profile by entering **N** to go to the next record, and **P** to go to the previous record. You can also go to a specific record by entering the name of the record.

To list all of the options to this prompt, enter **?**. To edit the specified record, enter **Yes** and press <Return>. The record can then be line-edited. Edited fields are validated to ensure that valid data is entered. The change to the field is not made if invalid data is entered.

After a record is completely edited, you are prompted with the next record (identified by the system). To save the changes made to the record, enter **write**. This saves the changes made to ALL records so far and exits PPMOD. To abort the changes and quit PPMOD, enter **abort**. This cancels all changes made and exits PPMOD.

DelUser <MailBoxNumber> / <UserID> / <ClientID>

DelUser is used to delete a Local Voice Only User, and requires you to enter the user's MailBoxNumber, UserID, or ClientID, depending on what the key is set to. It deletes the user from the corporate/organization directory, and deletes the user's personal cabinet.

Class of Service support

AD_UTIL provides support for Class of Service (COS). To use the commands in AD_UTIL for COS administration, it is necessary to have some understanding of the implementation of COS in the system.

When a COS is defined in the system, two events occur. First, a COS record is created and stored in the system profile. Secondly, a

corresponding index entry in the Corporate Directory is created. This index entry is used by applications in the system to quickly find out information on a particular COS definition, such as its interface type.

Unlike the regular system administration facility, when a new COS definition is created by AD_UTIL, it always inherits the default values. To set it up differently, another command must be invoked afterwards to modify its definition.

Note: Also unlike the regular system administration facility, AD_UTIL allows COS records to be defined in customer profiles as well as in the system profile. However, always define COS records in the system profile because no current applications can access COS records that are defined in the customer profiles.

AddUCOS <CustNum> <COSNum> <COSName> <Interface>

AddUCOS is used to define a COS in the system. All parameters must be supplied, and their meanings are given below:

<CustNum>

This parameter determines where the new COS record will be stored. Always specify "0". Number 0 indicates the profile of Customer 0, which is the system profile. To supply any other value (as long as the specified customer exists) would cause the COS record to be created in the specified customer's profile and no applications would be able to access it. The newly created COS would be useless on the system.

<COSNum>

The number of the COS to be defined. In a single-customer system, this value has to be between 1 and 15, inclusive. In a multi-customer system, this value can be between 1 and 127, inclusive. In both cases, the supplied COS number cannot already exist in the system.

<COSName>

The name of the COS to be defined. You can specify up to 41 characters.

<Interface>

The interface type. Pick either MMUI or VMUIF. Note that a COS that is defined to be for the MMUI cannot be used by users and customers who use VMUIF, and vice-versa.

Note: All COS numbers in the system must be unique. It is not possible to define a COS #3 for the MMUI interface and a COS #3 for the VMUIF interface. Also, when defining a COS, it is not necessary to create them in numerical order. For example, you could create COS 5, 9, 3, and 1 in that order.

ViewUCOS <CustNum> <COSNum>

ViewUCOS is used to view a previously defined COS in the system. All parameters must be supplied, and their meanings are given below:

<CustNum>

This parameter determines where the COS record will be retrieved from. Always specify "0". Number 0 indicates the profile of Customer 0, which is the system profile. This is where all COSs should have been stored when adding COSs.

<COSNum>

The number of the COS to be viewed. In a single-customer system, this value has to be between 1 and 15, inclusive. In a multi-customer system, this value can be between 1 and 127, inclusive.

ModUCOS <CustNum> <COSNum>

ModUCOS is used to modify a previously defined COS in the system. All parameters must be supplied, and their meanings are given below:

<CustNum>

This parameter determines where the COS record will be retrieved from for update. Always specify "0". Number 0 indicates the profile of Customer 0, which is the system profile. This is where all COSs should have been stored when adding COSs.

<COSNum>

The number of the COS to be modified. In a single-customer system, this value has to be between 1 and 15, inclusive. In a multi-customer system, this value can be between 1 and 127, inclusive.

Note: When creating a COS using AD_UTIL, it is necessary to invoke the ModUCOS command after AddUCOS to customize each COS definition. After modifying the various fields in the record, the user will be prompted to commit all changes. A reply of "yes" will commit all changes. A reply of "no" will cancel all changes.

DelUCOS <CustNum> <COSNum>

DelUCOS is used to delete a previously defined COS in the system. All parameters must be supplied, and their meanings are given below:

<CustNum>

This parameter determines where the COS record to be deleted is currently stored. Always specify "0". Number 0 indicates the profile of Customer 0, which is the system profile. This is where all COSs should have been stored when adding COSs.

<COSNum>

The number of the COS to be deleted. In a single-customer system, this value has to be between 1 and 15, inclusive. In a multi-customer system, this value can be between 1 and 127, inclusive.

ListUCOS <CustNum> "All" <Sort>**ListUCOS <CustNum> "Interface_Type" <Interface> <Sort>****ListUCOS <CustNum> "COSNum" <COSNum>****ListUCOS <CustNum> "COSName" <COSName>**

ListUCOS is used to list all the COSs defined on the system, based on a particular retrieval pattern. When this command is invoked, the information comes from the Corporate Directory, not from the system profile (as is the case with all other COS commands). Thus, it is possible to use this command along with the ViewUCOS command to check the consistency of the COS system. For example, you can verify that for every COS record that exists in the system, a corresponding COS index entry exists in the Corporate Directory.

As shown by the command syntax, there are four possible retrieval patterns possible. The first syntax retrieves all the COS definitions, and displays the data in the specified sort order. The second syntax retrieves all the COSs of the specified interface type, and displays the data in the specified sort order. The third syntax allows for the retrieval of a single COS index entry based on the COS number. The fourth syntax allows for the retrieval of a single COS index entry based on the COS name.

Whichever syntax is used, all parameters must be supplied. The meaning of each parameter is described below.

<CustNum>

This parameter determines where the COS record is stored. Always specify “0”. Number 0 indicates the profile of Customer 0, which is the system profile. This is where all COSs should have been stored when adding COSs.

<Sort>

The two possible choices are “Number” and “Name”. If “Number” is selected, the retrieved COS records will be displayed in numerical order based on the COS number. If “Name” is selected, the retrieved COS records will be displayed in alphabetical order based on the COS name.

<COSNum>

The number of the COS to be retrieved. In a single-customer system, this value has to be between 1 and 15, inclusive. In a multi-customer system, this value can be between 1 and 127, inclusive.

<COSName>

The name of the COS to be retrieved. You can specify up to 41 characters.

<Interface>

The interface type. Pick either MMUI or VMUIF. Only the COSs of the specified interface type will be retrieved.

Organization profile fields

The organization profile is made up of records containing a number of fields, many of which can be modified. Not all of the fields and records listed below will appear on your system, as many are feature-dependent. Below is a list of all possible fields.

Note: Using this utility, remote notification targets, custom revert DNs, and DNU dialing codes can be defined to include the pause (*) character.

Basic record

Profile version number	Meridian Mail release number (view only)
System (Meridian 1) number	Meridian 1 customer number (Integer range 0–32767)
System name	Name of system, not the customer name (up to 30 characters)
Date format	mm/dd/yy OR yy/mm/dd OR dd/mm/yy

Feature record

Voice Messaging	In modify mode, the choice "Yes/No" appears; otherwise, view only
Meridian Mail Networking	Only one customer per system can have this feature
Voice Menus and Announcements	In modify mode, the choice "Yes/No" appears; otherwise, view only
Meridian Mail AutoAdmin	(view only)
Dual Language Prompting	(view only)
Multi-Customer	(view only)
Disk to Disk Backup	(view only)
Hospitality	Only one customer per system can have this feature
SMDI	(view only)
Outcalling	(view only)
Network Message Services	In modify mode, the choice "Yes/No" appears; otherwise, read only; only applicable to single-customer systems
AMIS	(view only)
AdminPlus	(view only)
Meridian ACCESS	(view only)
Multiple Administration Terminals	(view only)
Voice Forms	In modify mode, the choice "Yes/No" appears; otherwise, read only
Integrated Mailbox Administration	(view only)
VMUIF Customers	(view only)
Fax On Demand	In modify mode, the choice "Yes/No" appears; otherwise, read only
The user classes are defined by:	In modify mode, the choice "System/Customer" appears; otherwise, read only; for MM9, always select system
Select class for COS array element #:	(15 fields) "None" or 1–127 (modify); "No_Class_Defined" or 1–127 (view)

Telephony record

Customer attendant DN	Customer attendant DN if revert DN fails (up to 30 digits)
Customer Broadcast mailbox	To allow system administrator to broadcast a message to all Voice Messaging users (up to 18 digits)
Play the message length for messages greater than (min)	Length of message warning issued for messages longer than this value (Integer range 0–32767)
Time between messages in autoplay mode (0.1 sec)	(Integer range 0–32767)
Disregard voice messages shorter than (0.1 sec)	Minimum length of a call answering message (Integer range 0–32767)
Delayed prompts will play after (0.1 sec)	Time allowed before delayed prompt is given; 0 => infinite delay (Integer range 0–32767)
Timeout waiting for the next digit (0.1 sec)	Time allowed between digit entry (Integer range 0–32767)
Timeout waiting for the user to log in (0.1 sec)	Time for Voice Messaging to wait before it assumes the user will not log in (Integer range 0–32767)
Timeout waiting for the user to come back from call sender (min)	To disconnect Voice Messaging during call sender state (Integer range 0–32767)
Timeout waiting to disconnect an idle login session (sec)	To disconnect idle logon session during command input states, and not during recording states (Integer range 0–32767)
Timeout waiting to disconnect an idle call answering session (sec)	To disconnect idle call answering session during command input states, and not during recording states (Integer range 0–32767)
Number of rings to wait before returning from placing a call	Used with the time between rings to compute the time for the service to wait before it assumes no answer. (Integer range 0–15)
Amount of time between two consecutive rings (sec)	Length of time between rings (Integer range 0–32767)
Block CA to a box when overfilled by this: (X * mailbox size; 0 => no effect)	Call answering message blocking factor. (Integer range 0–20) e.g., If X is 2, then twice the mailbox size. CA messages will not be accepted once mailbox exceeds this size.
Voice Messaging Interface	Meridian Mail Standard/VMUIF (view only)

The length of DN's for this customer group	Length of DN at a customer group (Integer range 0–30)
The precode for thru-dial to a user of the same customer group	Code prefixed to a DN when a user is calling someone within the same customer group via thru-dial from Voice Messaging.
Address expansion for local DN of the length (1st entry)	Length of the local DN with respect to the customer. Used to determine whether address expansion is required. (Integer range 0–32767)
Address expansion for local DN of the length (2nd entry)	Length of the local DN with respect to the customer. Used to determine whether address expansion is required. (Integer range 0–32767)
Expand mailbox/DN to this length	The length of the mailbox/Network DN to be used for address expansion (Integer range 0–255)
Multi-SPM customer group	Yes/No If No, all users of the customer group are contained within one SPM.
Length of time the ANI will wait before timing out (.01 sec)	The range is 0–32767. The default is 0. (It is 50 in Russia).
Supervised Transfer Delay (.01 sec)	The range is 100–1000 centi-call seconds. (.01 sec). The default is 200.
Voice message playback speed % increase for speed 0:	None. this value cannot be changed.
Number of segments to play and drop for speed 0:	0–0. This value cannot be changed.
Voice message playback speed % increase for speed 1:	The default is 33. Possible speed increments are 25%, 33%, 50%, 67%, 75%, and 100%. None is valid.
Number of segments to play and drop for speed 1:	The default is 3–1 (play 3, drop 1; corresponds to a 33% increase in speed).
Voice message playback speed % increase for speed 2:	The default is 67. Possible speed increments are 25%, 33%, 50%, 67%, 75%, and 100%. None is valid.
Number of segments to play and drop for speed 2:	The default is 3–2 (play 3, drop 2; corresponds to a 67% increase in speed).

Voice message playback speed % increase for speed 3:	The default is 100. Possible speed increments are 25%, 33%, 50%, 67%, 75%, and 100%. None is valid.
Number of segments to play and drop for speed 3:	The default is 1–1 (play 1, drop 1; corresponds to a 100% increase in speed).

Login record

Default Language	Default Voice Messaging language for the customer group
Secondary Language	Secondary Voice Messaging language for the customer group. Only if Dual Language prompting is enabled.
Terminate session after this number of unsuccessful logon attempts	Number of times during a single session a user can attempt to login before the session is disconnected (Integer range 1–99)
Disable logons after this number of unsuccessful logon attempts	Number of invalid passwords allowed before disabling user logins (Integer range 0–99)
System debug level	Level at which diagnostics are running (Integer range 0–255)
Block Meridian Mail on catastrophic disk failure	Yes/No
End to End Answer Supervision	Available/Unavailable Available => rely on call progress information

Region Id	Standard/France Standard => Standard RN/DNU defaults will be used. France => France RN/DNU defaults will be used. The France defaults are: <table> <tr> <td>RN Busy Retry Limit</td><td>1</td></tr> <tr> <td>RN No Answer Retry Limit</td><td>4</td></tr> <tr> <td>RN Answer Retry Limit</td><td>0</td></tr> <tr> <td>DNU Busy Retry Limit</td><td>1</td></tr> <tr> <td>DNU No Answer Retry Limit</td><td>4</td></tr> <tr> <td>DNU Answer Retry Limit</td><td>0</td></tr> <tr> <td>RN Busy Retry Interval</td><td>00:05</td></tr> <tr> <td>RN No Answer Retry Interval</td><td>00:05</td></tr> <tr> <td>RN Answer Retry Interval</td><td>00:05</td></tr> <tr> <td>DNU Busy Retry Interval</td><td>00:05</td></tr> <tr> <td>DNU No Answer Retry Interval</td><td>00:05</td></tr> <tr> <td>DNU Answer Retry Interval</td><td>00:05</td></tr> </table> Note: If the Region ID field is changed after the creation of customer groups, previously created customer groups will maintain their previous values. New Customers created after this field has been changed will have either the "Standard" or "France" outcalling defaults depending on the Region ID setting.	RN Busy Retry Limit	1	RN No Answer Retry Limit	4	RN Answer Retry Limit	0	DNU Busy Retry Limit	1	DNU No Answer Retry Limit	4	DNU Answer Retry Limit	0	RN Busy Retry Interval	00:05	RN No Answer Retry Interval	00:05	RN Answer Retry Interval	00:05	DNU Busy Retry Interval	00:05	DNU No Answer Retry Interval	00:05	DNU Answer Retry Interval	00:05
RN Busy Retry Limit	1																								
RN No Answer Retry Limit	4																								
RN Answer Retry Limit	0																								
DNU Busy Retry Limit	1																								
DNU No Answer Retry Limit	4																								
DNU Answer Retry Limit	0																								
RN Busy Retry Interval	00:05																								
RN No Answer Retry Interval	00:05																								
RN Answer Retry Interval	00:05																								
DNU Busy Retry Interval	00:05																								
DNU No Answer Retry Interval	00:05																								
DNU Answer Retry Interval	00:05																								
Password Display Suppression Enabled:	Yes/No. The default is No.																								
Block help prompts during external sessions:	Yes/No. The default is No.																								
Force password change for initial user login:	Yes/No. The default is Yes.																								
Threshold % above which disk storage warnings should be issued	(Integer range 1–100)																								
Threshold % above which mailbox storage warnings should be issued (0 => no warning)	(Integer range 0–100)																								
Override preferred language (call answering, express messaging)	Yes/No Yes => Default Language will override all user's preferred languages.																								
Default Password Prefix:																									
Number of days the current text logon password is valid (0=>N/A) days:	The default is 0.																								
Number of days the current voice logon password is valid (0=>N/A) days:	The default is 30.																								

Number of days before the voice password expires, for warning (days):	The default is 5.
Number of unique voice passwords required before re-use:	The default is 5.
Number of unique text passwords required before re-use:	The default is 5.
Minimum length of the voice password:	The default is 4. (Integer range 0–32767)
Minimum length of the text password:	The default is 4. (Integer range 0–32767)
Minimum length of admin passwords:	The default is 6. (Integer range 0–32767)
Allow duplicate user DNs	Yes/No. The default is No.
Introduction tutorial	None/Default/Custom Type of tutorial to play to a VMUIF user the first time the user logs in; also indicates which language the tutorial will use (there is one introduction tutorial for each of the installed languages); only applicable to VMUIF users
Login Greeting	None/Default/Custom Type of prompt to play when a user logs into the system; also indicates which language the greeting will be in (there is one login greeting for each of the installed languages); only applicable to VMUIF users
DP Introduction tutorial	None/Default/Custom Type of tutorial to play to a VMUIF user who uses a dial pulse telset the first time the user logs in; also indicates which language the tutorial will use (there is one DP introduction tutorial for each of the installed languages); only applicable to VMUIF users
VMUIF user lockout revert DN	Call revert DN when user locked out due to too many invalid login attempts; up to 30 digits
Default Password Prefix	Prefix for default password; up to 4 digits
Number of days the current text logon password is valid (0=> n/a) (days)	(Integer range 0–32767; 0 => infinite)
Number of days the current voice logon password is valid (0=> n/a) (days)	(Integer range 0–32767; 0 => infinite)
Number of days before the voice password expires, for warning (days)	(Integer range 0–60)
Number of unique voice passwords required before re-use	(Integer range 0–32767)

Number of unique text passwords required before re-use	(Integer range 0–32767)
Minimum length of the voice password	(Integer range 0–32767)
Minimum length of the text password	(Integer range 0–32767)
Logons from a telephone external to the system	Enabled/Disabled (Note: Once logons external to the switch are disabled and the record is written to the organization profile, external logons can never be re-enabled)
Name dialing/addressing enabled	Yes/No To enable name dialing/addressing through Voice Messaging and Extension Dialing
Name dialing/addressing prefix	Up to two digits

OM (Operational Measurements) file limits

Next collection date (dd/mm/yy)	Collection date in specified format
Collect start (hh:mm:ss)	Collection start time in specified format
Maximum billing periods	Number of billing periods to keep on disk (Integer range 1–63)
Maximum number of traffic files	Number of days worth of data for Local and Network traffic files (Integer range 0–32767)
Maximum number of billing files	Number of days worth of data for billing files (Integer range 0–32767)
Bills that cannot be traced to this DN	Calls that cannot be traced to a particular user are charged to this DN; up to 30 digits
Outcalling volume ID	Volume for OCS use (Integer range 1–999)
Threshold % above which audit trail commits will be disabled	Audit Trail disabled at this disk percentage (Integer range 0–100)
Number of days to hold audit trail data (days)	Number of days to hold audit trails (Integer range 1–63)
Collect audit trail data	Yes/No
Print SEERs	Yes/No; to enable SEER printing
SEER printer port name	Up to 12 characters
OM printer port name	Up to 12 characters

OM Traffic record

Collect and store traffic data	Yes/No; to enable collection of traffic data
Traffic start time (hh:mm:ss)	Start time in specified format
Traffic end time (hh:mm:ss)	End time in specified format
Traffic commit interval (hh:mm:ss)	How often to collect data
Collect and store billing data	Yes/No; to enable collection of Local billing data
First MWI audit start time (hh:mm:ss)	Start time in specified format
Second MWI audit start time (hh:mm:ss)	Start time in specified format

Administration record

System greeting recorded	Language name and Yes/No for each language installed (view only)
Call Sender to Non-Users allowed	Yes/No
Maximum retention for read files (days)	Days ahead that read files will be marked for deletion (Integer range 0–31)
Default network message priority	Economy/Standard Note: Only appears when Meridian Mail Networking is enabled for this customer.
Maximum timed delivery delay (days)	(Integer range 0–365)
Timeout waiting for extension to be entered after “0” revert (0.1 sec)	(Integer range 10–50)
Restriction/permission list for thru-dial in call answering	None/Local/On_Switch/Long_distance_1/Long_distance_2
Total number of customers on the system	Number of customers currently defined on the system. WARNING: only modify to fix system inconsistencies
The customer number of the Networking customer	Number of the customer with Networking capability. WARNING: only modify to fix system inconsistencies
The customer number of the Hospitality customer	Number of the customer with Hospitality capability. WARNING: only modify to fix system inconsistencies

The customer number of the default ACCESS customer	(Integer range 1–2000)
The default IMA customer number	The number of the customer to which IMA will add users (Integer range 1–2000)
Validation of calling party name in IMA administration	Yes/No Yes => IMA software validates calling party name.
The VMUIF personal distribution list prefix	Prefix used to mark a personal distribution list in VMUIF addressing; up to 2 digits
The VSDN data is sorted by	DN/Customer_Number/Service_Type/Comment
The service definition data is sorted by	DN/Customer_Number/Comment
The choice of services actions is sorted by	Acronym/Service_Name
The choice of menu actions is sorted by	Acronym/Menu_Action_Name
Display choice of services in CAT	Yes/No
Display choice of services in VSDN	Yes/No
Display choice of services in Find form	Yes/No
Display choice of services in Voice Menu	Yes/No
The users community for this customer group	Business/Residential/Hospitality Community that user belongs to (view only)
The default UCOS to use when adding a user from a utility	(Integer range 1–127)
Block the capture of external CLIDs:	Yes/No
The Maximum number of Temporary Remote voice users	For 2 nodes or fewer, the default is 1000. The valid range is 0–1000. For 3 nodes or more, the default is 1000. The valid range is 0–10,000.
Percentage of Maximum number of TRVUs to trigger nightly audit	The default is 75%. The valid range is 0–100%.
Percentage of Maximum number of TRVUs to be left after audit is finished	The default is 50%. The valid range is 0–100%.
Default new Remote Voice Users to be name dialed by external callers:	Yes/No. The default is Yes.
System Access Monitoring Period START time (hh:mm):	The default is 23:00.
System Access Monitoring Period END time (hh:mm):	The default is 05:00.

Monitor all CLIDs using Thru-dial during monitor period:	Yes/No/Always Monitor. The default is No.
Monitor specific CLIDs in Thru-dial and Mailbox Logins during monitor period:	Yes/No/Always Monitor. The default is No.
Do you wish to view the CLIDs being monitored?	Yes/No. If Yes is selected, displays the Internal CLIDs monitored, followed by the External CLIDs monitored.
Label to be used on ALL backup tapes:	The default is blank.
(List of 15 backup requests) – Volume ID – Target Node – Media	List of volumes for which a backup is currently scheduled (view only) Volume to be backed up Node for write; Used in Disk-to-Disk backup User Profiles Only/The Whole Text Volume/Both Voice and Text Volumes/Unknown
Backup schedule	Current schedule of disk backups (view only)
Backup in progress	Yes/No (view only)
Backup list	List of volume names to be backed up (view only)

VS (Voice Services) Profile record

The Voice Services Profile Version	(view only)
Volume where the voice services are defined	Disk volume where voice services cabinet resides (Integer range 1–32767)
Time when VS Profile record last updated (dd/mm/yy hh:mm:ss)	(view only)
Transfer to OTA upon receiving initial AMIS tone	Yes/No
Issue SEER whenever a Voice Menu or a VSDN entry is modified	Yes/No
The initial timeout (0.01 sec)	Time allowed for completion of commands before action taken by service (Integer range 0–32767)
The second timeout (0.01 sec)	Time before disconnecting or connecting caller to an attendant (Integer range 0–32767)

Maximum time allowed for silence (sec)	Time voice service remains active while recording silence before disconnect (Integer range 0–32767)
Maximum size of a prompt (sec)	(Integer range 0–32767)
Maximum size of an announcement (sec)	(Integer range 0–32767)
Start of business day (hh:mm)	With next field, defines business hours of customer
Close of business day (hh:mm)	
Number of holidays defined	(view only)
Holiday definition – Holiday start date (dd/mm/yy) – Holiday end date (dd/mm/yy) – Comments	Listed if defined. Up to twenty may be defined. With next field, defines customer's holiday Comments associated with this holiday

Switch Data record

Switch records	One record for each switch on the system
– Switch type	Lists all switches in system (view only)
– Transfer option	Conference/Blind_Transfer/ Half_Blind_Transfer
– Reconnect option	Single_Flash_Hook/Double_Flash_Hook
– Transfer code	Note: only appears if using ROLM switch
– Reconnect code	Note: only appears if using ROLM switch
– Conference code	Note: only appears if using ROLM switch
– Drop conference code	Note: only appears if using ROLM switch

Language record

Language records	One record for each language on system
System defined name	25 character field for customer preferred language name. Used for display.
NT defined name	Northern Telecom predefined language name (read only)
Language ID	(read only)
Prompt order for timed delivery	month followed by day/ day followed by month
Reply to Phone Number prompt cannot be interrupted for this many seconds	The default is 3. The valid range is 0–15 seconds.

Restriction/Permission Codes record

Restriction/Permission Code Sets	The possible code sets are On switch, Local, Long_distance_1, and Long_distance_2. Each restriction or permission code set has up to 10 entries. Each restriction or permission code can be up to 5 digits in length.
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Outcalling record

Default numeric pager call-back data	Up to 8 digits or *'s
Paging service terminator	P.I.N. terminator when calling users of a paging service. One of "#", "e", "" (null-string), or blank. The default is #.
Numeric Pager Data Separator	#, *, and blank. Blank indicates no data separator character is sent. The default is *.
Voice Pager Skip Greeting Character	0–9, #, *, or blank. Blank indicates no skip greeting character is sent. The default is blank.
Voice Pager Notification Length (Seconds)	The maximum length in seconds that a voice page can be played out. The range is 1–6000. The default is 20.
Maximum number of remote notification multiple retry failures	When reached, notification is turned off for the user (Integer range 0–32767)

Total number of agents that can be used by outcalling server	(Integer range 0–32767)
Outcalling server blocked retry interval (min)	Amount of time to wait before retrying after a failed attempt to acquire an OCA (Integer range 0–60)
Maximum number of retries for delivery to a non-user when busy	(Integer range 0–10)
Retry interval for delivery to a non-user when busy (hh:mm:ss)	Interval time in the specified format
Maximum number of retries for delivery to a non-user when no answer	(Integer range 0–10)
Retry interval for delivery to a non-user when no answer (hh:mm:ss)	Interval time in the specified format
Maximum number of retries for delivery to a non-user when answered	(Integer range 0–10)
Retry interval for delivery to a non-user when answered (hh:mm:ss)	Interval time in the specified format
Start of Monday to Friday regulatory time window (hh:mm:ss)	Start time in the specified format
End of Monday to Friday regulatory time window (hh:mm:ss)	End time in the specified format
Start of Weekend regulatory time window (hh:mm:ss)	Start time in the specified format
End of Weekend regulatory time window (hh:mm:ss)	End time in the specified format
Prefix and Dial Codes	Up to 5 prefix/dial code pairs can exist.
Prefix	Prefix used to reference specified dial code. Up to 5 digits
Dial Code	Up to 5 digits
Number of times to play a DNU message	(Integer range 1–2)
DTMF confirmation required before a DNU message is played	Yes/No
Above value overrides user's DTMF confirmation requirement	Yes/No Yes => overrides personal profile
Length of time available to deliver a DNU message (dd:hh:mm:ss)	Beyond this time, DNU message is stale dated and a Non-Delivery Notice will be returned.

Hospitality record

Post checkout audit time for unread messages (hh:mm:ss)	Audit time at which time unread messages will be cleaned out of post checkout mailbox
Post checkout audit cycle for read messages every (hours)	Audit cycle for cleaning out read messages from post checkout mailbox (Integer range 1–23)
Post checkout retention time for unread messages (days)	Length of time unread messages kept in post checkout mailbox (Integer range 0–99)
Post checkout retention time for read messages (hours)	Length of time read messages kept in post checkout mailbox (Integer range 0–23)
PMS protocol	PMS1/PMS2/PMS3
PMS timeout (0.1 sec)	Time in centiseconds (Integer range 0–32767)
PMS inactivity timeout (min)	Time in minutes (Integer range 1–32767)
Asynchronous Voice Count Option	No_Asynch/Any_Change/To_From_Zero How and how often to send asynchronous counts to PMS
Upon checkout display VC information	Yes/No
For VC information display at	PMS/GAC
Maximum number of NAKs permitted	Maximum number of consecutive NAKs (Integer range 0–32767)
Support CPND	Yes/No Yes => PMS does pass names to MM Hospitality
Maximum length of PMS name	(Integer range 1–27)
Text message center DN	Up to 30 digits
Vacant room revert DN	Up to 30 digits
Revert DN when no voice messaging	Up to 30 digits
Activate Meridian 1 alarm on PMSI link error	Yes/No
Polling messages are not sent to PMS	Yes/No
PMS sends ACK/NAK in response to MM messages	Yes/No
Language ID provided by PMS	Yes/No
Link between MM and PMS exists	Yes/No
Link between MM and Meridian 1 exists	Yes/No

Language ID Table for PMS messages Language ID: Language Index:	Up to 8 entries in the table Up to two characters Integer range 1–n, where n is the number of languages on the system
PMSI link character mapping table PMSI Char: Internal Chars:	International character mapping table used to map PMSI link characters to international characters. Up to 16 entries in the table. Any character Up to two characters
The default Guest COS	The only Mailbox COS available to Guest users. (Integer range 1–127)
Greeting when no voice messaging	Custom/Default/None (One for each language) Used when VM intentionally turned off by guest
Greeting when room vacant	Custom/Default/None (One for each language)
Greeting when phone unanswered	Greeting when phone not answered Custom/Default/None (One for each language)
Greeting when guest busy	Custom/Default/None (One for each language)
Guest Login Greeting	Voice Messaging login greeting Custom/Default/None (One for each language)
Guest Introduction Greeting	Custom/Default/None (One for each language)
Set MWI for Introduction Greeting	Yes/No (One for each language)
Guest System Greeting recorded	Yes/No (view only) (One for each language)
Text messages exist so	SayNothing/SayGotoTxtCtr/SayGotoTV
Default DN length for rooms	(Integer range 1–7)
DN pad digits	Up to six characters
Password based on	CheckInDate/RoomID/LastName
System generated password length	(Integer range 4–16)

AMIS record

Start of Monday to Friday regulatory time window (hh:mm:ss)	Start time in the specified format
End of Monday to Friday regulatory time window (hh:mm:ss)	End time in the specified format
Start of Weekend regulatory time window (hh:mm:ss)	Start time in the specified format
End of Weekend regulatory time window (hh:mm:ss)	End time in the specified format
Restriction/permission list for AMIS messages	None/On_Switch/Local/Long_distance_1/ Long_distance_2
The AMIS prefix	Used to indicate that following address is for an AMIS recipient. Up to 2 characters.
Able to compose AMIS messages	Yes/No
Able to receive AMIS messages	Yes/No
The public AMIS Access Number	Up to 30 digits or *s
Number of AMIS messages to send per session	(Integer range 0–9)

Voice Forms record

Volume where Form Definitions files are stored	(Integer range 1–999)
Volume where Group & Form Info files are stored	(Integer range 1–999)
Time to audit responses and do recovery (hh:mm:ss)	Time in the specified format
Average number of channels used for Voice Forms	Number of active channels for voice forms (Integer range 0–32767)
Number of active Voice Forms	Number of concurrently active voice forms (Integer range 0–32767)
Minimum amount of time allowed for an answer (0.1 sec)	(Integer range 1–32767)
Maximum amount of time allowed for an answer (0.1 sec)	(Integer range 1–32767)

Time before delayed prompt played to caller (0.1 sec)	(Integer range 1–32767)
Time before delayed call played to transcriber (0.1 sec)	(Integer range 1–32767)
Time allowed between digit entry (0.1 sec)	(Integer range 1–32767)
Maximum silence allowed before recording stops (sec)	(Integer range 1–32767)
Time before VFSU assumes transcriber won't login (sec)	(Integer range 1–32767)
Time before disconnecting during call sender (sec)	(Integer range 1–32767)
Time before disconnecting during idle caller session (sec)	(Integer range 1–32767)
Time before disconnecting during idle transcriber session (sec)	(Integer range 1–32767)
Time before assuming caller has rotary phone (0.1 sec)	(Integer range 1–32767)

Font record

Font records	One record exists for each font installed on the system. These records are all view only.
Font Name	Up to 13 characters
Font Weight	Regular/Bold/Italic/Unknown
Font Resolution	Normal/Fine/SuperFine
Font Character Set	TrimTab/ASCII/8859/UniCode
Font Point Size	(Integer range 5–72)
Font Type	Fixed/Proportional/Unknown

Fax record

Line spacing (in terms of the calculated minimum spacing value)	(Integer range 0–1728)
Top Margin (in terms of scan lines)	(Integer range 0–2150)
Bottom Margin (in terms of scan lines)	(Integer range 0–2150)

Left Margin (number of pixels)	(Integer range 0–1728)
Right Margin (number of pixels)	(Integer range 0–1728)
Tab Width (number of space characters)	(Integer range 0–1728)
The font associated with this FASCII object	(Integer range 0–255)
Resolution of faxes to be transmitted	Normal/Fine/SuperFine
Resolution of faxes to be received	Normal/Fine/SuperFine
Outcalling server (fax) blocked retry interval (min)	If a fax agent cannot be acquired, then wait this amount of time before trying again. (Integer range 0–60)
Total number of fax agents that can be used by outcalling server	(Integer range 0–32767)
Maximum number of fax requests processed at a time (0 = all)	A value of 0 means the channel is not relinquished until all the queued requests have been processed. (Integer range 0–32767)
Maximum number of pages for a single fax item	(Integer range 0–32767)
Amount of time to wait before sending out a carrier tone (sec)	(Integer range 0–255)
Maximum number of retries for fax delivery when no carrier detected	(Integer range 0–10)
Retry interval for fax delivery when no carrier detected (hh:mm:ss)	Interval time in the specified format
Maximum number of retries for fax delivery when transmission fails	(Integer range 0–10)
Retry interval for fax delivery when transmission fails (hh:mm:ss)	Interval time in the specified format
Start of Business Day regulatory time window (hh:mm:ss)	Time in specified format
End of Business Day regulatory time window (hh:mm:ss)	Time in specified format
Start of Non-Business Day regulatory time window (hh:mm:ss)	Time in specified format
End of Non-Business Day regulatory time window (hh:mm:ss)	Time in specified format

Length of time available to deliver a fax message (dd:hh:mm:ss)	Beyond this time the fax message is stale dated and discarded. For FIS, NDNs will not be issued; for fax distribution, NDNs will be issued
Restriction/permission list for fax messages	None/On_Switch/Local/Long_distance_1/Long_distance_2

Personal profile fields

The personal profile is made up of records accessed by the voice messaging software and other applications. It contains the following records:

- Basic user record
- System record
- Session record
- Text Messaging record
- Voice Messaging record
- Administration record
- Hospitality record
- Remote Notification record

Add User information

Creating a new user via ad_util creates a special User ID with “ZZ” as the first two characters. A sample Add User session:

```
Enter Last Name:      Smith
Enter First Name:     John
Enter Mailbox Number: 2244
Enter DN:             2244
Enter UserID:         ZZSmit2244
Enter COS Number:     Personal_Class
Preferred Language:   English
User <ZZSmit2244> Added
```

Basic record

Profile version number	Meridian Mail Release Number (view only)
Location/Customer ID	Integer range of 0–63; view only; must be non-zero for NMS users
Client ID	Appears as up to 41 characters. Assigned by system on creation of user, and does not change. (view only)
User ID	User identifier, generally composed of user's last name and mailbox number. Up to 13 characters.

Mailbox number	Up to 18 digits (read only)
User Class	The Mailbox COS number used by this user (Personal_Class or Integer range 1–127)
Customer number	Customer group to which the user belongs (Integer range 1–2000) (view only)
Created by	The component of Meridian Mail that created the user.
Last updated by	The component of Meridian Mail that modified the user.

System record

User cabinet/profile resides on volume	(view only)
Allocated voice storage (8K Blocks)	Total space allocated for voice Integer range 1–2,147,483,647
Voice storage used (8K Blocks)	Space remaining for voice storage (view only)
Allocated text storage (1K Blocks)	Currently not used
Text storage used (1K Blocks)	Currently not used (view only)
Total number of invalid voice logons	(view only)
Total number of invalid text logons	(view only)
User last logged on at (dd/mm/yy hh:mm:ss)	Date and time in the specified format (view only)

Session record

Enabled UCOS features	Any of Dual Language Prompting, Outcalling, and AMIS
Voice logon password	Up to 16 digits (mod only)
Voice logon password last changed (dd/mm/yy hh:mm:ss)	Date and time in the specified format (read only)
Text logon password	Up to 16 characters (mod only)
Text logon password last changed (dd/mm/yy hh:mm:ss)	Date and time in the specified format (read only)
Preferred language	User's preferred language
Administrator	Yes/No

Compose messages to broadcast DN of customer group	Yes/No
Network Broadcast Capability:	Yes/No. The default is No.
Voice Messaging Interface:	Meridian Mail Standard is the default. The options are Meridian Mail Standard and VMUIF.
User has dual language call answering	Yes/No (MMUI only)
User use dial pulse interface	Yes/No (VMUIF only) Yes => User needs dial pulse interface
Voice volume level	Normal/Loud/Louder/Loudest (VMUIF only)
Login from Call Answering	Off/OwnMailbox/CustomerGroup (VMUIF only)
Play originator's address in message headers and envelope	Yes/No (VMUIF only)
Replay message header	Yes/No (VMUIF only)
Receive all Call Answering messages	Yes/No (VMUIF only)
[Amount of time to] lockout mailbox after password violation (hh:mm)	Time in the specified format. Default is 00:00 which means until manually removed by administrator. (VMUIF only)
Time of mailbox lockout [due to password violation] (dd/mm/yy hh:mm:ss)	Time of lockout due to password violation. (read only) (VMUIF only)

Text Messaging record

Accept voice mail (for MTA)	Yes/No
Accept text mail (for MTA)	Yes/No
Number of days to keep unread messages	(Integer range 0-32767)
Name of link that turns on the user's MWI	Up to 19 characters
Notify toolkit server of any incoming messages	Yes/No
Message waiting indication option	Any/Urgent/None
Message waiting indication DN	Up to 30 digits
Notification state of ACCESS Fax messages	Off/On/On_Reset
Number of ACCESS Fax messages	(read only)
Notification state of ACCESS Text messages	Off/On/On_Reset

Number of ACCESS Text messages	(read only)
Notification state of PMS Text messages	Off/On/On_Reset
Number of PMS Fax messages	(read only); only applicable to Hospitality systems
Retain a copy of a sent message	Yes/No (MMUI only) Yes => Retain copy of message sent No => Tag for deletion upon logoff Only applicable to Hospitality systems
Message status when call disconnected during compose	Send/Delete/Hold (VMUIF only)
Allowed to send messages to users outside customer group/SPM	Yes/No
Allowed to receive messages from users outside customer group/SPM	Yes/No

Voice Messaging record

Play delayed prompts	Yes/No
Play all messages automatically	Yes/No
Bypass prompting for mailbox/password	Yes/No Yes => A call to Voice Messaging from the user's phone automatically logs the user in
Custom revert DN upon pressing "0"	Up to 30 digits or *s If undefined, System Attendant DN will be called
Personal external greeting recorded	Yes/No (view only)
Personal internal greeting recorded	Yes/No (view only)
Files tagged for deletion will be physically deleted after (days)	(Integer range 0–32767)
Read messages will be retained (0=> system limit) (days)	(Integer range 0–99)
Maximum length for a call answering message (sec)	(Integer range 0–32767)
Maximum length for a compose/send message (sec)	(Integer range 0–32767)
Maximum length of a personal greeting (sec)	(Integer range 0–32767) (VMUIF only)

Call sender capability	Yes/No
Remote notification capability	Yes/No
Delivery to Non-Users capability	Yes/No
Edit schedules, periods, and targets via telset keypad	Enabled/Disabled
Caller gets busy notification when user is on the phone	Yes/No
Call answering sessions have been terminated because mailbox is full	Yes/No (read only)
User can bypass menus and go directly to msgs	Yes/No
User can compose AMIS messages	Yes/No
User can receive AMIS messages	Yes/No
Mailbox has compose/send capability	Yes/No (VMUIF only)
Send message via DNU if mailbox not found	Yes/No
Restriction/permission list for extension dialing from login	None/On_Switch/Local/Long_distance_1/Long_distance_2
Restriction/permission list for editable operator assistance	None/On_Switch/Local/Long_distance_1/Long_distance_2
Restriction/permission list for external call sender	None/On_Switch/Local/Long_distance_1/Long_distance_2
Restriction/permission list for AMIS addressing	None/On_Switch/Local/Long_distance_1/Long_distance_2

Admin record

Number of submailboxes that can be created	(Integer range 0–8) (VMUIF only)
Submailbox(es) have been created before	Yes/No Yes => User's password must begin with 1 (VMUIF only)
Currently the number of submailboxes is	(read only) (VMUIF only)
Can change own spoken name	Yes/No (MMUI only)
Issue SEER if this mailbox is logged into during monitoring period:	Yes/No. The default is No.

Hospitality record

User class	Staff/Guest
Room status is	Vacant/Occupied/Failure / CheckInWait/CheckOut Wait CheckIn Wait => Check in in progress CheckOut Wait => Check out in progress
VM are accepted by room	Yes => Guest wants Voice Messaging No => Guest wants Voice Messaging
Re-checkin flag has been set	Guest rechecking in after accidental checkout. Yes/No
Guest has changed password	Yes/No
Guest has logged in at least once	Yes/No
Copy has been done for room	Nothing/Messages/Mailbox Description of the type of copying done, if any
Last copied from this mailbox	Mailbox number up to 18 digits
Last time messages copied to room (dd/mm/yy hh:mm:ss)	Date and time in the specified format
Last checkout date for accidental checkouts – The month – The day – The hour – The minute – The sec – The unique value	(Integer range 1–12) (Integer range 1–31) (Integer range 0–23) (Integer range 0–59) (Integer range 0–59) (Integer range 0–254)
The unique room ID for each new check-in	Up to 16 characters
The Cabinet FID	Cabinet File ID (if none, value is NIL) Used as temporary storage for new cabinet FID

Remote Notification record

Request is currently active	Yes/No
Remote notification request submitted (dd/mm/yy hh:mm:ss)	Date and time in the specified format (view only)
RN request should be delivered (dd/mm/yy hh:mm:ss)	Should be or should have been delivered times

Temporary schedule will end midnight of (dd/mm/yy)	Date in the specified format
Maximum number of retries for remote notification when busy	(Integer range 0–10)
Retry interval for remote notification when busy (hh:mm:ss)	Time in the specified format
Maximum number of retries for remote notification when no answer	(Integer range 0–10)
Retry interval for remote notification when no answer (hh:mm:ss)	Date in the specified format
Maximum number of retries for remote notification when answered	(Integer range 0–10)
Retry interval for remote notification when answered (hh:mm:ss)	Time in the specified format
Current number of retries	Current number of retry cycles (read only)
Remote notification state	turned ON/turned OFF/ turned OFF due to retry limit/ turned OFF by external call/ turned OFF due to bad DN
Remote notification priority	Any => Any message will cause RN to commence. Urgent => Only urgent messages will cause RN to commence.
Disabled in schedule	(Integer range 0–2) (view only) 0 => Temporary; 1 => Business; 2 => Non-business
Disabled in time period	(Integer range 0–2) (view only)
Disabled by number	Disabled by DN number (Integer range 0–2) (view only)
Restriction/permission list for remote notification	None/On_Switch/Local/Long_distance_1/ Long_distance_2
Temporary schedule is currently enabled	Yes/No. The default is No.
The number of temporary schedule time periods per day	(Integer range 0–3). The default is 0.
Business days schedule is currently enabled	Yes/No. The default is No.
The number of time periods per business day	(Integer range 0–3). The default is 0.
Non-business days schedule is currently enabled	Yes/No. The default is No.

The number of time periods per non-business day	(Integer range 0–3). The default is 0.
Within scheduled periods, remote notify for messages received	OnlyDuringPeriod/AtAnyTime OnlyDuringPeriod => only messages received within scheduled period causes RN to be activated
Days of the Week – Sunday – Monday – Tuesday – Wednesday – Thursday – Friday – Saturday	Business day/Non-business day Business day/Non-business day Business day/Non-business day Business day/Non-business day Business day/Non-business day Business day/Non-business day Business day/Non-business day
<< SCHEDULES >> Period enabled From time (hh:mm:ss) To time (hh:mm:ss) Target DN call-back data P.I.N. number	Three schedule sets: Business days, Non-business days, Temporary Yes/No (Up to 3 periods per schedule) Time in the specified format Time in the specified format (Up to 3 per period) Phone/Tone Pager/Voice Pager/Numeric Pager/Paging Service For Voice Pager: Standard (Notification Only)/Notification and Message For Numeric Pager or Paging Service: Callback/Callback and CLID One DN per Target. Up to 30 digits. Up to 8 digits or asterisks (Only for Numeric Pager Targets) Up to 8 digits or asterisks (Only for Numeric Pager Targets)

Chapter 27: BURP

Disks are normally backed-up using the regular system administration facility. Lower level access is available through the BURP utility package.

BURP (BackUp and Restore Package) is a utility used on Meridian Mail for archiving and restoring MI Server volumes. All tapes are retensioned automatically before use.

If you have a corrupted disk or a corrupted volume and you need to restore the system from a tape or disk backup, do not use BURP directly but follow the official procedure as described in the *System Installation and Modification Guide* (NTP 555-7001-215).

Commands

The following commands are available in BURP:

- **RESETBACKUP** Reset parameters of backup task (allowable only if backup task is DEAD)
- **TAPELIST** List all volumes on a certain tape
- **TAPERETENSION** Retension a tape
- **VSARCHIVE** Archive MI Server volumes on tape or disk, on-line/off-line
- **VSRESTORE** Restore volumes from tape or disk, on-line/off-line

Note: Volume ID refers to the volume number. For example, 1 refers to VS1, which also has a text portion, VS1T, and a voice portion, VS1V.

resetbackup

Resets internal parameters to allow backups; this is used when a SEER with a 1555 error occurs, and there are no other backups in progress. There are two possible types of reset:

BURP: Reset the parameters so that BURP will work correctly.

Any: Reset the parameters so that BURP and the MMI will work correctly.

An example to reset any backups is shown below:

```
>resetbackup
Reset any backup or Burp backup only? Any
Parameters of backup task have been reset
>
```

tapelist

Lists the volumes on a specific tape. For example:

```
>tapelist
Retensioning tape...


| volume<br>name | time<br>archived | block<br>size | volume<br>size | start<br>block | tape<br>num |
|----------------|------------------|---------------|----------------|----------------|-------------|
| VS1T           | 70 01 06 21:53   | 1024          | 20360          | 0              | 1           |
| VS1V           | 70 01 06 21:53   | 8192          | 2125           | 0              | 1           |
| VS1B           | 70 01 06 21:53   | 1024          | 1000           | 0              | 1           |


Rewinding tape...
>
```

The columns/headings are described below.

volume name The name of the volume. A last letter of T indicates a text volume, V indicates a voice volume, and B indicates a temporary volume used by the backup and restore software.

time archived This is the time the volume was backed up onto this tape.

block size The number of bytes in a block for the volume. Text volumes have 1024 bytes in a block. Voice volumes have 8192 bytes in a block.

volume size The number of blocks in the volume. The total number of bytes is the volume size times the block size.

start block This field is non-zero only if a volume spills over onto a subsequent backup tape. In this case, the start block is the block number within the volume where the second tape begins. Any other volumes beginning on the subsequent tape will have a start block of 0 (zero).

tape num This field numbers the tapes in case more than one tape is required. Numbering starts at 1. All volumes listed on a given tape will have the same tape number.

taperetension

Retensions a tape. Tape cartridges must be correctly tensioned to reduce tape errors. This is normally done automatically by the software, unless tape retensioning has been switched off with the **autotaperet** command. An example is shown below:

```
>taperetension
Retensioning tape...
Rewinding tape...
>
```

vsarchive

Archives data from disk to tape or another disk. The volumes to be archived can be online (volume server running for the volume) or offline (no volume server running for the volume). There are three different types of backup that can be done:

Profiles_Only Archive user profiles to volumes VS901 (and VS902 on 2 node systems). This only works for multinode systems, and is the same as a partial backup of the volume.

Text_Volume Archive the text volume only.

Voice_And_Text Archive the text and voice volume.

The source node number is the node that contains the volume to be archived. If the destination is to disk, then you are also prompted for the target node number; this is the destination node for the backup volume.

```
>vsarchive
Is this an on-line or off-line backup? on-line
Is this a disk or tape backup? Tape
You are archiving from disk to tape.
Enter id of volume to be archived: (enter 0 for none) 1
Enter backup type: Voice_And_Text
Enter id of volume to be archived: (enter 0 for none) 0

Retensioning tape first, please wait...
Percentage of volume VS1T      archived: 100%

Percentage of volume VS1V      archived: 100%

Percentage of volume VS1B      archived: 100%

Backup finished

Rewinding tape...
Archive completed.
>
```

vsrestore

Restores volumes from a tape or disk backup, back to the disk. The backup volume name (source) does not have to be the same as the destination volume name.



CAUTION

Risk of system corruption

Do not use this command on a volume on a Meridian Mail system that is online. If you do, the volume will be corrupted.

Unlike the regular system administration facility, some knowledge of the system's file structure is necessary in order to use some of the commands in AD_UTIL.

An example of a restore from an online tape backup is shown below. This command is executed after entering the CI shell.

```
>vsrestore
Is this an online or offline backup? on-line
Are you restoring from Disk or Tape? Tape
Enter id of volume to be restored: 1
Enter destination id of volume to be restored: 3
Enter destination virtual node number: 1
Retensioning tape...
Looking for volume VS1T    ...
This VS1T    backup was created on 70 01 06 at 21:53
Blocks 0 to 20359 will be restored from VS1T    to volume VS3T
Restored up to block 20359
This VS1V    backup was created on 70 01 06 at 21:53
Blocks 0 to 2124 will be restored from VS1V    to volume VS3V
Restored up to block    2124
This was an online backup
This VS1B    backup was created on 70 01 06 at 21:53
Blocks 0 to 999 will be restored from VS1B to volume VS3B
Restored up to block    999
Do you want to restore another volume? No
Rewinding tape...
>
```

Chapter 28: OM_UTIL

OM_Util displays Operational Measurements (OM) data from the OM history files. The following commands enable you to view reports:

- OMFLUSH—Flush all OM data (Traffic and Billing data)
- OMUSERSUM—User Usage report
- OMSUMMSG—Billing data summary for specific user mailbox
- OMTV SERV—Voice Service Traffic report
- OMTVMSG—Voice Messaging Traffic report
- OMTCHNL—Channel Usage Traffic report
- OMTNET—Networking Traffic report
- OMTAMIS — AMIS Networking Traffic report
- OMTVMENU—Voice Menu Traffic report
- OMTVOL—Disk Usage Traffic report
- OMTMTA—Message Transfer Traffic report
- OMT1LH — T1 Link Handler Traffic report (SPM only)
- OMSMDILH — SMDI Link Handler Traffic report
- OMTOC—Outcalling Traffic report
- OMTFIS—Fax Delivery Traffic report
- OMBLOC—Local Billing data
- OMBNET—Network Billing data
- OMBAMIS — AMIS Network Billing data
- OMORG—Display OM Options settings
- OMAUDIT—Audit OM data

Commands

The following section lists and describes the commands available in OM_UTIL.

When a command is run and it requires input, the system prompts the user to enter the data. A default value is always displayed. To change this value, use the up or down cursor key to display the desired value, then press <Return>.

Help

Help text exists for each of the OM_UTIL commands. The help message for any command can be seen by typing:

help *command*

OMFLUSH

The OMFLUSH command allows the user to commit to disk all of the OM traffic data and OM billing data which is stored in the memory of the OM server. Executing this command causes all of the data to be written to the disk. Note that this command causes an interval change in the OM traffic reports.

The OMFLUSH command prompts for the following information:

```
This will cause an interval change in all OM Traffic
files
Do you wish to continue? Yes/No
```

OMUSERSUM

The OMUSERSUM command allows the user to view the User Usage report. It prompts for the following information:

```
Specify Search Pattern:    All/LastName/MailBox/
Department
Specify Sort Criteria:     Alphabetically/By_Department
Include Actual OM Header data:  Yes/No
Include Local Billing Data:     Yes/No
Include Network Billing Data:   Yes/No
Include AMIS Billing Data: Yes/No
Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):
```

The report is displayed in the following format:

```
DR User SerNo:
DR User Mailbox:
DR User SurName:
DR User FirstName:
DR User Dept:
DR User BillClass:
OM Type:
Record Type:
Date:
Update Flag:
Total Logon:
Total CalAns:
Total PC:
Total Internal:
Total External:
Total Compose Msg:
Total CallAns Msg:
Total MsgRep Msg:
Total MsgFwd Msg:
Session Length:
Message Length:
Disk Used:
Network Billing Summary:
AMIS Billing Summary:
```

Note: This report will contain data only if “Collect User Usage Data” is enabled in the OM Options.

OMSUMMSG

The OMSUMMSG command allows the user to view an up-to-date summary of the billing data stored on the disk for a particular mailbox. In order to get the most up to date data, use the OMFLUSH command before using the OMSUMMSG command. The OMSUMMSG command prompts for the following information:

Specify User Mailbox:

The report is displayed in the following format:

```
Number of Sessions found:
Number of Logon Sessions:
Number of Call Answering Sessions:
Number of External Calls:
```

Number of Internal Calls:
Number of Call Answering Messages:
Number of Composed Messages:
Number of Reply Messages:
Number of Forwarded Messages:

Note: This report will contain data only if “Collect User Usage Data” is enabled in the OM Options.

OMTVSERV

The OMTVSERV command allows the user to view the Voice Service Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):

The report is displayed in the following format:

Voice Services Summary Start Interval: 00/00/00
00:00:00

Voice Services Summary End Interval: 00/00/00
00:00:00

Service Name	#Incoming	#InDuration	#OutG
oing	#OutDuration		
Thru-Dial	0	0	0
Voice Menu	0	0	0
Voice Messaging	0	0	0
Call Answering	0	0	0
AMIS	0	0	0
MM Access	0	0	0
Express Messaging	0	0	0
Voice Announcements	0	0	0
Networking	0	0	0
Voice Administration	0	0	0
Prompt Administration	0	0	0
Time of Day Control	0	0	0
Post Checkout	0	0	0
Outcalling Agent	0	0	0
Delivery to Non-User	0	0	0
Remote Notification	0	0	0
Remote Activation	0	0	0
Voice Forms	0	0	0
Transcription Service	0	0	0
Fax Print Same Call	0	0	0
Fax Print Call Back	0	0	0

Fax Info Service	0	0	0	0	
Fax Item Maintenance		0	0	0	0

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTVMSG

The OMTVMSG command allows the user to view the Voice Messaging Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):

Specify End Date (dd/mm/yy):

The report is displayed in the following format:

Voice Messaging Detail Summary Start Interval: 00/00/00
00:00:00

Voice Messaging Detail Summary End Interval: 00/00/00
00:00:00

Number of Call Answering Sessions:

Number of Logon Sessions:

Number of Internal Calls:

Number of External Calls:

Number of Compose Messages:

Number of Call Ans Message:

Number of Reply Messages:

Number of Forwarded Messages:

Messaging Length (Min Avg Max):

Session Duration (Min Avg Max):

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTCHNL

The OMTCHNL command allows the user to view the Channel Usage Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):

Specify End Date (dd/mm/yy):

The report is displayed in the following format:

Detail Voice Channel Start Interval: 00/00/00 00:00:00

Detail Voice Channel End Interval: 00/00/00 00:00:00

Channel Number	#Incoming	#InDuration	#OutG
oing		#OutDuration	

1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTNET

The OMTNET command allows the user to view the Networking Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):

The report is displayed in the following format:

Detail Networking Start Interval: 00/00/00 00:00:00
Detail Networking End Interval: 00/00/00 00:00:00
SiteId:
Messages Delivered to SiteId:
Messages Received from SiteId:
Stale Messages
Maximum Connections:
Minimum Connections:
Total Connect Time(Sec):
Number of Unreachable Sites:
Number of No Resources:
Number of Attempts:
Number of Successful Attempts:

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTAMIS

The OMTAMIS command allows the user to view the AMIS Networking Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):

The report is displayed in the following format:

```
Detail AMIS Start Interval: 00/00/00 00:00:00
Detail AMIS End Interval: 00/00/00 00:00:00
Messages Delivered to SiteId:
Messages Received from SiteId:
Stale Messages
Maximum Connections:
Minimum Connections:
Total Connect Time(Sec):
Number of Unreachable Sites:
Number of No Resources:
Number of Attempts:
Number of Successful Attempts:
```

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTMENU

The OMTVMENU command allows the user to view the Voice Menu Traffic report. It prompts for the following information:

```
Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):
```

The report is displayed in the following format:

```
Detail Voice Menu Start Interval: 00/00/00 00:00:00
Detail Voice Menu End Interval: 00/00/00 00:00:00
Id      #Access  0   1   2   3   4   5   6   7   8
9      0      #      *
```

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTVOL

The OMTVOL command allows the user to view the Disk Usage Traffic report. It prompts for the following information:

```
Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):
```

The report is displayed in the following format:

```
Volume Server Usage Start Interval: 00/00/00 00:00:00
Volume Server Usage End Interval:   00/00/00 00:00:00
Volume Id Voice Volume(8K Blocks) Text Volume(1K Blocks)
          Size      Available      Size      Available
VS1
VS2
```

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTMTA

The OMTMTA command allows the user to view the Message Transfer Traffic report. It prompts for the following information:

```
Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):
```

The report is displayed in the following format:

```
Message Traffic Start Interval: 00/00/00 00:00:00
Message Traffic End Interval:   00/00/00 00:00:00
Local Message Transfer
Total Messages Received:
Standard Messages Delivered:
Urgent Messages Delivered:
Economy Messages Delivered:
NDN Messages Delivered:
Ack Messages Delivered:
Average Message Length:
Average Number of Recipients:
Network Message Transfer
Total Messages Received:
Standard Messages Delivered:
Urgent Messages Delivered:
Economy Messages Delivered:
NDN Messages Delivered:
Ack Messages Delivered:
Message Length:
Number of Recipients:
```

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMT1LH

The OMT1LH command allows the user to view the T1 Link Handler Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):

Specify End Date (dd/mm/yy):

The report is displayed in the following format:

T1 Link Handler Traffic Start Interval: 00/00/00
00:00:00

T1 Link Handler Traffic End Interval: 00/00/00
00:00:00

T1 Link name:

Number of bipolar violations:

Number of out of frame errors:

Number of extended SF errors:

Backward slip count:

Forward slip count:

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMSMDILH

The OMSMDILH command allows the user to view the SMDI Link Handler Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):

Specify End Date (dd/mm/yy):

The report is displayed in the following format:

SMDI Traffic start interval: 00/00/00 00:00:00

SMDI Traffic end interval: 00/00/00 00:00:00

Messages sent from switch:

Messages sent to application:

Errors sending call info:

MWI requests for invalid DN:

MWI acknowledgements blocked:

MWI negative acknowledgements:

MWI ON requests:

MWI OFF requests:

Application logins:

Application logouts:

Link outages:

Requests made while link down:

Invalid PCI messages received:
Bad packets/formats detected:

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTOC

The OMTOC command allows the user to view the Outcalling Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):

The report is displayed in the following format:

Outcalling Traffic Start Interval: 00/00/00 00:00:00
Outcalling Traffic End Interval: 00/00/00 00:00:00
Total OCS Blocked:
Maximum Active VSS:
Minimum Wait Time(sec):
Maximum Wait Time(sec):
Average Wait Time(sec):
Total Wait Time(sec):
Num of Waiting Periods:
Request Type: Remote Notification
Number of request:
Number of New Attempts:
Number of Retry Attempts:
Number of Successful Delivery:
Number of Cancel Retry:
Number of Other Cancel Retry:
Request Type: Delivery To Non-User
Number of request:
Number of New Attempts:
Number of Retry Attempts:
Number of Successful Delivery:
Number of Cancel Retry:
Number of Other Cancel Retry:

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMTFIS

The OMTFIS command allows the user to view the Fax Delivery Traffic report. It prompts for the following information:

Specify Start Date (dd/mm/yy):

Specify End Date (dd/mm/yy):

The report is displayed in the following format:

Fax Delivery Detail Traffic Start Interval: 00/00/00
00:00:00

Fax Delivery Detail Traffic End Interval: 00/00/00
00:00:00

Total OCS Blocked:

Maximum Active VSS:

Maximum Wait Time(sec):

Minimum Wait Time(sec):

Average Wait Time(sec):

Total Wait Time(sec):

Num of Waiting Periods:

Request Type: Fax Delivery

Number of request:

Number of New Attempts:

Number of Retry Attempts:

Number of Successful Delivery:

Number of Cancel Retry:

Number of Other Cancel Retry:

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

OMBLOC

The OMBLOC command allows the user to view the Local Billing Data report. In order to get the most up to date data, use the OMFLUSH command before using the OMBLOC command.

Note: This report will contain data only if “Collect Traffic Data” is enabled in the OM Options.

After the command is issued, the following prompts appear:

Specify Start Date (dd/mm/yy hh:mm):

Specify End Date (dd/mm/yy hh:mm):

The following prompt(s) will depend on whether you have the Network Message Service (NMS) feature installed on a single-customer or

multi-customer system. If you have a single-customer system without NMS, you will be prompted for the following:

Specify Mailbox Number (Blank for all mailboxes):

If you have a system with NMS, you will be prompted for the following:

Specify Networking Mailbox Number :

The networking mailbox number is the network location code followed by the mailbox number. If no code is given, the local site is assumed.

If you have a multi-customer system, you will be prompted for the following:

Specify Customer Number :

Specify Mailbox Number:

The following prompt will appear:

Display Session Trace counters: Yes

Note: The information on the generated reports will vary depending on the response to the Display Session Trace Counters prompt.

The following option will appear:

Only Display Voice Messaging Records?: No

If this field is set to No (default), all session trace records matching the criteria are displayed. If set to Yes, only the Call Answering, Express Messaging, Logon, and ACCESS records are displayed.

Logon call type

The report is displayed in the following format.

```
Message Trace Session Start: 00/00/00 00:00:00
Message Trace Session End:   00/00/00 00:00:00
Session Length:
Client Id:
Call Type:
Call Origination:
Called DN:
Calling DN:
DN Type:
User Logged on:
Compose Messages:
Reply Messages:
Forwarded Messages:
```


Min Message Length:
Max Message Length:
Total Message Length:
Total Messages end of session:
External Messages Exist:
Unread Messages Exist in SubMbx:
Submailbox number:
Last MWI Action:

The following fields are also displayed if Display Session Trace Counters is set to Yes.

Msgs Sent/Left This Session:
Timed Delivery Msgs Submitted:
Total Msgs Start of Session:
UnPlayed Msgs Start of Session:
Msgs Arrived During Session:
New Msgs Played This Session:
UnPlayed Msgs End of Session:
Messages deleted during Session:
UnPlayed Msgs Deleted:

PC ACCESS call type

The ACCESS report is the same as the Logon report, except that ACCESS Class replaces the following fields:

- External Messages Exist
- Unread Messages Exist in SubMbx
- Submailbox Number
- Last MWI Action

The report is displayed in the following format.

Message Trace Session Start: 00/00/00 00:00:00
Message Trace Session End: 00/00/00 00:00:00
Session Length:
Client Id:
Call Type:
Call Origination:
Called DN:
Calling DN:
DN Type:
User Logged on:
Compose Messages:

Reply Messages:
Forwarded Messages:
Min Message Length:
Max Message Length:
Total Message Length:
Total Messages end of session:
Access Class:

The following fields are also displayed if Display Session Trace Counters is set to Yes.

Msgs Sent/Left This Session:
Timed Delivery Msgs Submitted:
Total Msgs Start of Session:
UnPlayed Msgs Start of Session:
Msgs Arrived During Session:
New Msgs Played This Session:
UnPlayed Msgs End of Session:
Messages deleted during Session:
UnPlayed Msgs Deleted:

Express Messaging call type

The report is displayed in the following format.

Message Trace Session Start: 00/00/00 00:00:00
Message Trace Session End: 00/00/00 00:00:00
Session Length:
Client Id:
Call Type:
Call Origination:
Called DN:
Calling DN:
DN Type:
Message Disposition:
Total Message Length:
Submailbox number:
Last MWI Action:

Call Answering call type

The report is displayed in the following format.

Message Trace Session Start: 00/00/00 00:00:00
Message Trace Session End: 00/00/00 00:00:00
Session Length:
Client Id:

Call Type:
Call Origination:
Called DN:
Calling DN:
DN Type:
Message Disposition:
Total Message Length:
Submailbox number:
Last MWI Action:

Message Transfer Agent Report

The report is displayed in the following format.

Message Trace Session Start: 00/00/00 00:00:00
Message Trace Session End: 00/00/00 00:00:00
Session Length:
Client Id:
Call Type:
Message created at:
Message sent at:
Message to be delivered at:
Sender:
Message Type:
Last MWI Action:

Selective Restore

The report is displayed in the following format.

Message Trace Session Start: 00/00/00 00:00:00
Message Trace Session End: 00/00/00 00:00:00
Session Length:
Client Id:
Call Type:
Total Messages Restored:
Total New Messages Restored:
Total Msgs Start of Session:
Total Messages End of Session:
Unplayed Msgs Start of Session:
Unplayed Msgs End of Session:
Last MWI Action:
PDLs Restored:

Volume Server

The report is displayed in the following format.

```
Message Trace Session Start:  00/00/00  00:00:00
Message Trace Session End:    00/00/00  00:00:00
Session Length:
Client Id:
Call Type:
Total Messages Deleted:
```

OMBNET

The OMBNET command allows the user to view the Network Billing Data report. It prompts for the following information:

```
Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):
```

The report is displayed in the following format:

```
Specify User Mailbox (Blank for all):
Network Billing Start:      00/00/00  00:00:00
Network Billing End:       00/00/00  00:00:00
Mailbox Number:
Department Number:
Recipient SiteId:
Message Priority:
```

Note: This report will contain data only if “Collect User Usage Data” is enabled in the OM Options.

OMBAMIS

The OMBAMIS command allows the user to view the AMIS Network Billing Data report. It prompts for the following information:

```
Specify Start Date (dd/mm/yy):
Specify End Date (dd/mm/yy):
```

The report is displayed in the following format:

```
Specify User Mailbox (Blank for all):
Network Billing Start:      00/00/00  00:00:00
Network Billing End:       00/00/00  00:00:00
Mailbox Number:
Department Number:
Recipient SiteId:
```

Message Priority:

Note: This report will contain data only if “Collect User Usage Data” is enabled in the OM Options.

OMORG

The OMORG command allows the user to view the OM options settings for the system. These options can be changed in the OM options screen.

The report is displayed in the following format:

```
Traffic Collection:
Traffic Start Time:
Traffic End Time:
Traffic Period:
Traffic Days Stored:
Billing Collection:
Billing Days Stored:
OM Collect Start Time:
Usage Days Stored:
ACCESS Class:
```

OMAUDIT

The OMAUDIT command allows the user to force the OM to clean up any old data stored on the disk. To run this command, type **OMAUDIT**.

The system asks for confirmation of the request. To continue, respond with “YES.” An information level SEER is produced at the start and end of the OMAUDIT process.

Session Trace feature

Session Trace is a feature that enables you to obtain detailed information about activity in a user's mailbox and the state of the message waiting indicator (MWI). The session information includes the following:

- voice messaging
- call answering
- express messaging activity (messages composed and sent, or left in a mailbox)
- the number of messages played or left unplayed at the start during, and end of a session
- message delivery
- selective restore
- VS audit
- the last change to the MWI (turned on or off, or left untouched)

Information is captured each time a user initiates an appropriate session, a message is deposited in a user's mailbox, a message is deposited in a user's mailbox, the VS Audit deletes messages, or messages are restored into a mailbox. It is stored along with normal billing data.

Note 1: This report will contain data only if "Collect User Usage Data" is enabled in the OM Options.

Note 2: The OM billing data which provides the session trace information is only kept on the disk for two days.

In order to obtain user mailbox and MWI information, use the following procedure:

- 1 Ensure that "Collect User Usage Data" is enabled in the OM options. If it is not enabled, then there will be no prior session trace data on the system disk.
- 2 Enter the command OMFLUSH as described in this chapter. This command will cause OM_SERVER to commit all of the buffered billing information to the system disk.
- 3 Enter the command OMBLOC as described in this chapter. When prompted, enter the user's mailbox for the session trace information that you require.

- 4 Enter "Yes" when prompted with "Display Session Trace Counters:" to ensure that the reported data will include the session trace information.
- 5 Enter "No" when prompted with "Display Voice Messaging records:" to ensure the Message Transfer Agent, Volume Server, and Selective Restore Records are displayed.

Chapter 29: SE_UTIL

The SEER utility (SE_UTIL) provides an interface to the SEER (System Error or Event Report) file maintained by the SEER server. This file maintains a record of all system error messages. The SEER utility provides the following functionality for manipulating the SEER file:

- provides system administration-supported functions and allows a manual reset of the overwrite pointer
- allows simulated SEERs to be generated and sent to the SEER server
- allows viewing of the components of the SEER file itself: header, index and SEER records
- provides an option to locate the SEER server task ID and to kill the SEER server
- allows you to change the SEER level in the system
- allows viewing and modification of the Remap table
- allows you to turn on or off SEER filing on disk
- provides an option to turn on/off SEER printing
- allows viewing SEERs that are stored on disk
- allows you to manipulate the SEER throttling configuration
- allows changing the SEER “commit to file” interval
- allows you to query and turn off alarms

For more information on SEERs, refer to the *Maintenance Messages (SEERs) Reference Manual* (NTP 555-7001-510).

SEER file structure

The SEER file has three segments: the file header, the file index, and the SEER record segment. The utility provides commands for viewing the components of each of these segments. Figures 29-1 and 29-2 outline the SEER file and record structure.

Figure 29-1
SEER file segments

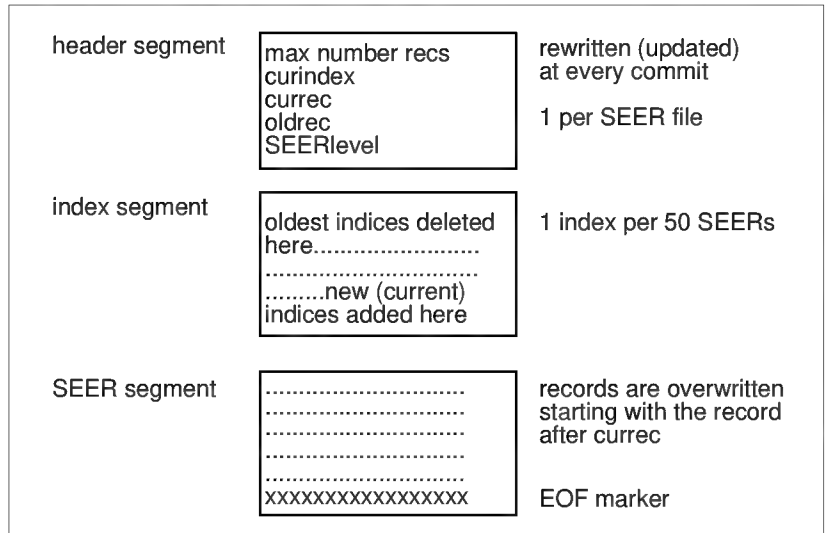
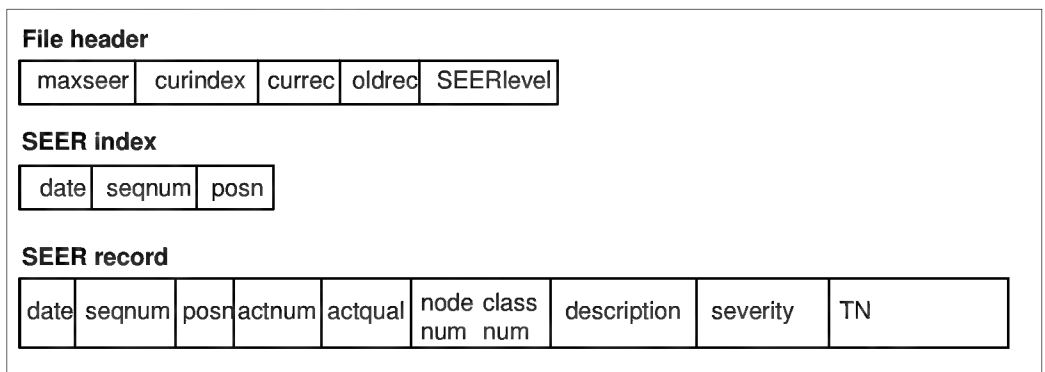


Figure 29-2
SEER segment components



Note: Please refer to the SEERs manual for a definition of the fields in the SEER.

Running SE_UTIL

The SEER server does not need to be running to run SE_UTIL, however the following commands will not successfully complete if the server is down:

- SESEND
- SEDSEND
- AUTOSEND (messages sent to printer only)
- SERESET
- SEPRINT (cannot communicate with server)
- SEWRITE
- SELEVEL
- SETHROTTLE
- SEREMAP
- SEVIEWREMAP
- SESETTIME
- SEOFFALARM
- SEQUERYALARM

Viewing of SEERs should be possible as long as a SEER file is present on the system volume server.

Commands

Commands can be entered in two formats, either including the parameters on the command line or entering them in response to prompts provided by the utility. Either form will result in the same operation being performed.

Press <Return> after each command or response to a prompt.

Note: For commands that require date/time, use the format “dd/mm/yy hh:mm:ss”—note that 2 spaces separate the date and time. Leaving them blank or entering them incorrectly causes SE_UTIL to default to

the oldest and most recent record respectively (i.e., all valid SEERs will be viewed).

SEBEGINVIEW

SEBEGINVIEW is used to open the SEER file and to set up pointers to allow the SEER file records within a given time interval to be viewed. This command must be issued before a SEVIEWNEXT or SERESET is called.

To close a file opened using this command use SEENDVIEW.

SEBEGINVIEW has two parameters, the start and end times of the interval.

sebeginview <"dd/mm/yy hh:mm:ss"> <"dd/mm/yy hh:mm:ss">

SEENDVIEW

SEENDVIEW is used to close the SEER file after having been opened using SEBEGINVIEW. It should also be used after an SE-prefixed operation has gone into error.

seendview

SEVIEWNEXT

SEVIEWNEXT is used to view the SEER records chronologically.

SEBEGINVIEW must be issued before this command is used in order to open the file and to set up the start and end dates for viewing. For each call of SEVIEWNEXT a single SEER record is displayed. To view the first and all successive records in the interval a separate call to SEVIEWNEXT must be made. When the end of the interval has been reached the message 'no more records to display' will be seen. To terminate viewing or to start another session of viewing use the SEENDVIEW command.

The SEER record will be displayed as follows:

seviewnext

Seer Record:

Date Stamp: dd/mm/yy hh:mm:ss

Posn XX Seqnum XX

Error Record:

Class XX Num XX

Errstr xxxxxxxxxxxxxxxxxxxxxxxxxxxx>

SERESET

SERESET is used to reset the SEER overwrite pointer to allow the circular SEER file to be used. When the pointer to the current record is about to coincide with the pointer to the oldest record in the file and AutoReset is

handled automatically by the SEER server, the overwrite pointer is moved ahead a set number of records, creating a new oldest record.

This operation may also be done manually through SE_UTIL using this command. The parameter for this command is a date (using the same format as SEBEGINVIEW) to which the pointer is to be reset. The date must be within the current range of the SEER file or an error will be returned. Before this command is issued a call must be made to SEBEGINVIEW using NULL (default) dates to allow for date validation.

The format for this command is:

sereset <"dd/yy/mm hh:mm:ss">

SEPRINT

SEPRINT is used to query the AUTOPRINT flag to see if automatic printing of SEERs is enabled. It also allows autoprinting to be turned ON or OFF. The command format is:

seprint <y/n>

The default always toggles autoprinting. **Y** turns autoprinting ON and **N** turns it OFF.

SESEND

SESEND is used to send simulated SEER messages to the SEER server. The following options control how the messages are sent:

- IS
- MM
- SE
- PRT

It is recommended to wait for a period of the commit time (usually one minute) before attempting to read this message from disk.

IS:

SEERs are generated using the IS_REPORT procedure. The command format is:

sesend <error number> <"error string"> IS <unit error>

MM:

SEERs are generated using the MM_REPORT procedure. The command format is:

sesend <error number> <"error string"> MM <unit error> <error severity>

SE:

SEERs are generated using the SE_REPORT procedure. The command format is:

sesend <error number> <"error string"> SE <unit error> <error severity> <customer number> <TN>

PRT:

SEERs are generated using the SE_PRINT or SE_1PRINT procedure. The command format is:

sesend <error number> <"error string"> PRT <error severity> <TN> <action number> <action qualifier> <yes/no – for using SE_1PRINT> <data type> <data> ... <data type> <data>.

SESEND

SESEND is used to send simulated error messages to the SEER server, using IS_DREPORT format as follows:

sedsend <error number> <"error string"> <unit error> <extra data>

AUTOSEND

AUTOSEND is used to continuously send simulated error messages to the SEER server. You may choose to send either the default record or one of your own.

ATTENTION

This command is CPU intensive.

To end AUTOSEND use <CTRL> A.

autosend Y

autosend N <error number> <"error string">

autosend

```
Use Default Record (y/n) y
Enter error number 0      (appears if N is the
response above)
Enter error string        (appears if N is the
response above)>
Enter # msgs to be sent
Enter delay (tics) between msgs>
```

OPENSEER

OPENSEER is used to open the SEER file for viewing SEER records in their “physical” sequential order. The commands MARKERS, INDEX and SEER may be used with this command. Records viewed in this manner are presented as they appear in the flat file as opposed to the circular file. This means that invalid records that appear between CURREC and OLDREC are visible. Only one call to OPENSEER is needed for any group of successive calls to one or more of MARKERS, INDEX, or SEER. Once OPENSEER has been issued these commands can be used repeatedly in any combination until CLOSESEER is issued. The command format is:

openseer

CLOSESEER

CLOSESEER is used to close the SEER opened using OPENSEER. It should also be used after a non-SE-prefixed operation has gone into error. The command format is:

closeseer

MARKERS

MARKERS is used to display the SEER file header. OPENSEER must be called before MARKERS can be used. This command displays the following:

markers

```
Pointer Record
Number of Records xxxx
Current Index xxxx
Oldest Record xxxx
Current Record xxxx
```

INDEX

INDEX is used to display the SEER file indices. OPENSEER must precede use of this command. This command displays the following:

index

```
Index Record  
Date Stamp dd/mm/yy  hh:mm:ss  
Seqnum xx  
Posn xx  
View another record (y/n)  y
```

Responding Y to the prompt displays the next index. The ">" prompt indicates the end of the file indices.

SEER

The SEER command is used to display the SEERs in the order in which they appear in the flat file. This command displays the following:

seer

```
Seer Records:  
Date Stamp: dd/mm/yy  hh:mm:ss  
Posn xx Seqnum xx  
Error Record:  
Class xx Num xx  
Errstr xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
View another record?  N=Next, J=Jump, Q=Quit
```

At the "View another record?" prompt, press the up arrow key to display the different response options (Next, Jump, Quit). Press return when the option you want is displayed. Select "Next" to display the next record. Select "Quit" to discontinue the command, and return to the ">" prompt. Select "Jump" to skip a number of records; the following prompt appears:

```
Enter number of records to skip 0
```

Enter your response and a SEER record of the above format will appear. When the last SEER has been viewed the ">" prompt returns. To view all the records from the top simply issue the SEER command again.

FINDREC

FINDREC is used to locate a given SEER record and/or its index by date. The OPENSEER command must be used before this command is issued. The format of the FINDREC command is:

findrec i "dd/mm/yy hh:mm:ss"

findrec r "dd/mm/yy hh:mm:ss"

findrec

Search for an I)ndex or R)ecord?

Enter date dd/mm/yy__hh:mm:ss

Date Stamp dd/mm/yy hh:mm:ss

Seqnum xx (appears if I is entered)

Posn xx (appears if I is entered)

Posn xx Seqnum xx (appears if R is entered)

Error Record: (appears if R is entered)

Class xx Num xx (appears if R is entered)

Entering **i** to the search prompt displays only the index associated with the given date. Entering **r** displays both the index and the SEER record.

SELEVEL

SELEVEL is used to select the type of SEERs to be printed. All SEERs are retained in the system SEER file. There are four SEER levels:

- Debug level (all SEERs are printed)
- System level (System, Administrator, and Error SEERs are printed)
- Administrator level (Administrator and Error SEERs are printed)
- Error level (only Error SEERs are printed)

Format of the command is:

selevel

SEER Printout Level: Error

Use the up or down arrow key to choose the desired SEER level, and press <Return> to enter your selection. The SEER level selected by this command is stored in the SEER header file and will, therefore, not be changed after a system restart.

DUMPSEER

DUMPSEER is used to dump the SEERs stored in the SEER file into a SEER text file in ASCII format. The RW100 server must be running before this command can be issued. The command will create the file (:RW100:SEERTEXT) containing the requested SEERs in text format. The file can then be viewed or printed.

SEVIEWREMAP

SEVIEWREMAP is used to view the remap table. The remap table is stored in both the master SEER server and the backup SEER server.

The format of the command is:

seviewremap

Locate Master or BackUp = Master

Enter "Master" if the master SEER server is up, otherwise enter "Backup" if the backup SEER server is up.

SEREMAP

SEREMAP is used to remap the severity of a SEER to a different severity level. This flexibility will allow the administrator/technician to tailor the SEER output to suite their particular needs and functions. The REMAP feature can also be used to remap a whole class of SEER messages.

If both the SEER number and SEER class are remapped, the individual remapping will take precedence. The Remap Table can have a maximum of 50 entries. If "(C)" appears next to a SEER number in the remap table, this means that the whole class will be remapped.

The format of the command is:

seremap

Modify/Add/Delete an entry in Remap Table? se_Modify

Use the up or down arrow key to choose the desired action, and press <Return> to enter your selection.

Remap an entire class of SEER? (y/n)

If you answer "yes", the following is displayed:

Enter the SEER class to be remapped:

If you answer "no", the following is displayed:

Enter the SEER number to be remapped:

Enter the severity level: ErrInf

Use the up or down arrow key to choose the desire level and press
<Return> to enter your selection.

SESETTIME

The SEER commit time (i.e. how often the SEER is committed to disk) is entered in seconds. The command format is:

sesetime <time in seconds>

SEQUERYALARM

This command is used to query the status of a specified alarm. The command format is:

sequeryalarm <alarm level>

SEOFFALARM

The alarms can be turned off by generating an “off alarm” SEER. The level of the alarm to turn off must be specified. The command format is:

**seoffalarm <alarm severity> <error number> <“error string”>
<error unit> <alarm cause>**

SETHROTTL

The throttling parameters (on/off, threshold, and duration) can be changed by this command. The command format is:

sethrottle <on/off> <throttle threshold> <throttle time in minutes>

Chapter 30: RSM_UTILS

The RSM package is written to test the RS-232 Service Module (RSM) interface routines and utilities. The RSM module must be present on the selected node.

System dependencies are as follows:

DMS Voice Mail	not present
Classic Meridian Mail	optional
Option 11	optional
Enhanced Capacity (EC)	always present as part of Utility Pack

The following commands are available:

- RSMNODE — set node for RSM commands
- RSMSTARTPORT — start RSM port test
- RSMENDPORT — end RSM port test
- RSMGETTIME — get current time
- RSMSETTIME — set current time
- RSMINT — set RSM interrupts to Enable(1) / Disable(0)
- RSMLED — set RSM LED to on(1) / off(0)
- RSMLEDSTAT — displays RSM LED status
- RSMMINALARM — set Minor Alarm on(1) / off(0)
- RSMMAJALARM — set Major Alarm on(1) / off(0)
- RSMCRTALARM — set Critical Alarm on(1) / off(0)
- RSMALARMSTAT — displays RSM alarm status
- RSMREADPERM — read battery-backed data
- RSMWRITEPERM — write battery-backed data

- **RSMREGS** — display RSM register status
- **RSMSETMODEM** — turn on/off EC utility card modem (EC systems only)

Commands

RSMNODE

If there is more than 1 RSM card in a multi-node system, sets the RSM card node number. All RSM package commands will then be directed to this node's RSM card. If the number is not set the RSM commands will be directed to the node where the RSM package is loaded.

RSMSTARTPORT

The **RSMSTARTPORT** command starts the driver task on the required ports at the given baud rate. The first parameter is the terminal baud rate for this test. The command then accepts port names (maximum of five) as command parameters. If the command is entered without the parameters, the user will be prompted for the baud rate followed by the required port names. Enter "" (null string) to indicate the end of the port name parameters if the number of parameters is less than 5. If you don't end the list with a null string, then the system will prompt for the remaining port names up to the maximum of 5 port names.

To start the driver task for ports MOD0183 and MOD0184 with baud rate 19200, enter:

```
rsmstartport 19200 MOD0183 MOD0184 ""
```

RSMENDPORT

The **RSMENDPORT** command will terminate the driver task running in the required ports. The command also accepts port names as the command parameters. If the command is entered without the parameters the user will be prompted for the required port names (the default names will be the port names that you entered with the **RSMSTARTPORT** command). Enter "" to indicate the end of the port name parameters if you have entered less than 5 port names.

To end the driver task for ports MOD0183 and MOD0184, enter:

```
rsmendport MOD0183 MOD0184 ""
```

For the RSMENDPORT and RSMSTARTPORT commands to perform properly the following hardware and software installation is expected.

- The system should be equipped with an RSM card and the RSM card cables should be connected to RS232 terminals using modem connections.
- The hardware database “dataport” components should be defined with data type = hd_termdata and named port1, port2, port3, port4, and port5. Port1 is normally used for the CSL port and can be defined as datatype = hd_CSLdata and the name can be left blank. The system should be restarted after the hardware database is redefined.

RSMGETTIME

The RSMGETTIME command reads and prints the current time which is maintained by the RSM card clock. This command has no parameters.

RSMSETTIME

The RSMSETTIME command will set the RSM card clock time to the user designated time. The time is designated using parameters.

For example, entering

```
rsmsettime 89 1 11 15 30 30
```

will set the RSM clock time as

```
Year      89
Month     01  (January)
Date      11
Time      15  (24 hour clock 3PM)
Minute    30
Second    30
```

RSMINT

This command enables (1) and disables (0) interrupts from the RSM card.

To enable interrupts from the RSM card, enter:

```
rsmint 1
```

To disable all interrupts from the RSM card, enter:

```
rsmint 0
```

RSMLED

This command turns the LED indicator on front of the RSM board ON (1) and OFF (0):

rsmled on

rsmled off

RSMLEDSTAT

This command displays the current RSM LED status.

RSMMINALARM

This command turns the Minor Alarm device provided by the RSM board ON (1) and OFF (0).

rsmminalarm on

rsmminalarm off

RSMMAJALARM

This command turns the Major Alarm device provided by the RSM board ON (1) and OFF (0).

rsmmajalarm on

rsmmajalarm off

RSMCRTALARM

This command turns the Critical Alarm device provided by the RSM board ON (1) and OFF (0).

rsmcrtalarm on

rsmcrtalarm off

RSMALARMSTAT

This command displays the current alarm status.

RSMWRITEPERM

This commands writes data given by the user in the battery-supported memory of the RSM card. Up to 50 bytes of data can be written into this memory.

RSMREADPERM

This commands prints out the data in the battery-supported memory of the RSM card.

RSMREGS

This command displays the current status of RSM registers.

RSMSETMODEM

This command turns the EC utility card modem (EC systems only) ON or OFF.

rsmsetmodem on

rsmsetmodem off



CAUTION

Risk of data loss

This utility should not be used during an active remote access session.

Chapter 31: SCSI_UTIL

This utility contains diagnostic tools for small computer system interface (SCSI) disk and tape drives. It should not be used on a live system.

When you select the `scsi_util` option from the RSC menu, you will be prompted for the node number.

About disks

A SCSI disk drive may be viewed as a set of 512-byte blocks. Blocks are numbered consecutively starting from 0. The disk controller handles the mapping of sectors to blocks. During the life of a disk, the sector associated with a block may change as a result of reassignment.

At the next level, disk space is partitioned into regions. Region 0 contains the operating system. Region 1 holds the file system. The starting positions of the regions are:

System	Region 0	Region 1
non-Option 11	32	2032
Option 11	2	1400

Region 1 begins immediately after region 0 and runs to the end of the disk.

At the next level, disk space within the file system region is divided into volumes. There are two types of volumes, text and voice, which allocate space in 1 kilobyte and 8 kilobyte units, respectively.

The **list** command in VSMUP may be used to list the names, starting locations, and sizes of volumes within the file system region. If **List** gives a volume's starting location as x , the volume occupies a sequence of disk blocks starting at block $2x$ of the region. If the volume is a text volume of

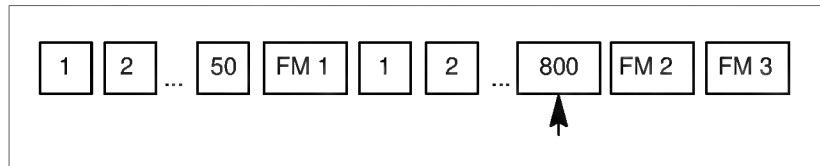
size y text blocks, it will take up the next $2y$ disk blocks. If the volume is a voice volume, it will take up the next $16y$ disk blocks.

About tapes

A cartridge written by a SCSI 1/4-inch tape drive may be viewed as sequences of 512-byte blocks separated by filemarks. The position of a block is given by a pair of numbers (x, y) . Where x is the number of filemarks between the beginning of tape and the block, and y gives the position of the block relative to the last filemark before it.

For example, consider the tape layout shown in Figure 31-1.

Figure 31-1
SCSI tape layout



Physically, blocks and file marks are written in tracks that run back and forth along the length of the tape. The number of tracks that can be fitted across a tape depends on both cartridge type and the tape drive that is doing the writing. The Flashback and the Viper 2060S can only read and write 9-track tapes of the DC300XLP and DC600A varieties. When writing, the Viper 2150S will maximize the number of tracks as follows:

DC600A	15 tracks
DC6150	18 tracks
DC6250	18 tracks

When reading, it will adapt to the number of tracks on the tape. Certain tape drive-cartridge combinations will not work. For example, a DC600A cartridge written by a Viper 2150S cannot be read on a Viper 2060S. As another example, a Viper 2150S cannot be used to write a DC300XLP cartridge.

Exception reports

Disk exception

```
device d> sense key: k error code: e [block: b]
```

In all SCSI devices, sense keys encode exception type as follows:

```
0 ok
1 recovered error
2 not ready
3 medium error
4 hardware error
5 illegal request
6 unit attention
7 data protect
8 blank check
```

Sense keys 3 and 4 indicate some form of hardware problem. Sense key 5 arises when `scsi_util` tries to access an unsupported feature. Sense key 6 comes up after a reset.

Error codes give more specific information about an exception. Their interpretation is disk drive dependent.

Tape exception

```
device d> sense key: k [residue: r]
```

Sense key 6 comes up after cartridge insertion, as well as after device reset. Sense key 7 is the result of attempting to alter the contents of a write-protected cartridge. Sense key 8 indicates end of recorded data.

General exceptions

```
device d> bus reset timeout
```

This message indicates that `scsi_util` was unable to determine the outcome of a command that it sent out to a device.

```
device d> driver error: x
```

`x` can take on the following values:

```
129 selection timeout
130 unexpected disconnect
131 bus reset
```

132 parity error
133 timeout

General commands

Most `scsi_util` commands apply to only one or two types of devices. The device types of a command and of the currently-selected device must match; otherwise the command will be rejected. General commands are an exception; they can be used regardless of device selection.

node

This command prints out the ordinal number of the node on which `scsi_util` is running.

reset *bus*

This command resets all devices on SCSI bus *bus*. On non-SPM systems, there is only one bus, 0. On SPMs, there are two buses, 0 and 1.

select *x*

This command selects the device at SCSI address *x* as the target for further commands. If no address is given, it returns the current selection.

selftest

This command makes a device perform its own built-in diagnostics. Usually these diagnostics only exercise the device's electronics and do not involve any medium access.

Disk commands

The following commands can be used only with disk drives.

defects *option*

This command displays information about defective sectors that were mapped out. There are four options:

- ***count*** Display number of sectors mapped out.
- ***grown*** List sectors mapped out after leaving the factory.
- ***primary*** List sectors mapped out before leaving the factory.
- ***combined*** List all sectors that were mapped out.

modesen *option*

This command displays a disk's operating parameters in the form of a hex dump. Related parameters are grouped together in pages; modesen provides the following options for viewing a page:

- ***current*** Displays version of page in disk controller memory.
- ***changeable*** Displays map of page bits that may be changed.
- ***default*** Displays default version of page.
- ***saved*** Displays version of page saved on disk.

Disk drives vary in the pages they support as well as in their interpretation of individual parameters.

read *blk n*

This command displays the contents of blocks *blk* to *blk + n - 1* in the form of a hex dump.

reassign *blk0 blk1...*

This command takes a list of blocks and assigns new sectors to them (if the list is empty, reassign does nothing). Blocks should be entered on the list in ascending order by address.



CAUTION **Risk of data loss**

Do not use this command on a live system.

Reassign may fail for two reasons:

- Sense key 3, error code 17. While trying to reassign a block on the list, a different block was found to be unreadable. If that block is not on the list, add it to the list and try again.
- Sense key 3, error code 50. An appropriate spare sector cannot be located.

size

This command displays the size of the disk in blocks.

verify *blki blkf* yes/no

This command checks that the data and redundant bits in blocks *blki* to *blkf* are consistent. The default values for *blki* and *blkf* cover the entire disk. Verify will either go through all requested blocks or stop on the first error depending on whether the third parameter is yes or no.

Tape commands

The following commands work only with tape drives. All tape commands require that a cartridge be in the tape drive and will prompt you to press a key when the tape is ready. Ensure that the tape has stopped moving before pressing a key.

read *fm blk n*

This command displays the contents of blocks (*fm, blk*) to (*fm, blk + n - 1*) in the form of a hex dump.

Multiple reads can be issued to a tape. SCSI_UTIL will try to minimize the amount of time spent positioning the tape.

retension

This command forwards to the end of the tape and then rewinds it.

rewind

This command rewinds the tape.

verify

This command checks that the data and redundant bits in every block on tape are consistent. There are three possible outcomes:

- “Pass” Every block can be read, possibly with retries.
- “Fail” One or more blocks cannot be read. SCSI_UTIL reports the position of these blocks as they are encountered.
- “Blank tape” The tape is blank.

SCSI_UTIL also reports the total number of retries, or soft errors, in the process.

Notes on SCSI_UTIL

The following must be considered when using SCSI_UTIL with some disk and tape drives in Meridian Mail.

- 5.25" 150M or 300M Seagate disk drives can only reassign one bad block at a time. If a second bad block is discovered during reassignment, neither block can be reassigned.
- The DC6150 cartridge is not compatible with the Viper 2060S. Attempting to use the cartridge with the drive will result in a sense key 7 (write-protected).

Chapter 32: CPTD_UTIL

This utility allows you to configure the Call Progress Tone Detector (CPTD) which is used when outcalling services are needed on Meridian Mail. CPTD capabilities can be configured to recognize the call progress tones (dial tone, ringback, line busy, etc.) implemented in the country or location in which Meridian Mail is installed. This utility can also be used to view the CPTD parameters currently configured.

**CAUTION****Risk of system failure**

This utility should only be used by trained installation technicians or under the guidance of Product Support. Parameter changes can drastically change the behavior of the CPTD module.

The CPTD Administration menu

When you select option <13>, `cpd_util`, from the RSC menu, the menu shown in Figure 32-1 is displayed.

Note: Changes made to CPTD configuration will not take effect until after you exit from `cpd_util` and reboot the system.

Figure 32-1
The CPTD Administration menu

CPTD Administration

General Information:

All times are presented and entered as thousands of a second.
Internally times are stored in 16 millisecond units.

Instructions will be provided on the use of each screen prior to its presentation if HELP has been turned on.

Country:Country_Name

1	Cadence Parameters	2DFT Band Numbers
3	Filters for DFT Band Numbers	4Frequency Band Threshold Table
5	Other Timeout Values	6SIT Data
7	Filter Coefficients	8Reserved Parameters
9	Non Repeating Tones	10Country Name
11	Restore Complete CPTD File	12Turn On/Off HELP
13	Exit	14Pager Detection Bands

Select one of the above:

Entering data

In most cases, when you select an option from this menu, you will be presented with modifiable fields or fields for data entry. They will be presented one line at a time. When entering data, keep the following guidelines in mind:

- If help mode is turned on, you will see help text before being given access to the fields. The text briefly describes the set of fields that you will be viewing and/or changing. If help mode is off, you will have access to the fields as soon as you choose the option from the CPTD Administration menu.

- There are either numerical or textual restrictions on the range of values that may be entered for most data entry fields (except for the Country Name). You may use the cursor up and cursor down keys to view the range of acceptable values or enter the value yourself (as long as it is within the range of acceptable values). When entering a number value, you may prefer to type the desired value yourself.
- For entries involving units of time, your entry will either be rounded up or down to the nearest multiple of 16 ms. Therefore when reviewing data, you will probably notice that the values you have entered have changed somewhat.
- If you mistakenly enter incorrect values, you may restore the default values by exercising the Restore Default Values option that usually appears as you move to the menu option.

The following sections describe the items that can be selected from the CPTD Administration menu. Since each installation may have different needs for this utility, depending on which parameters must be changed, there is no single method for proceeding through this utility. However, Options 1 (Cadence Parameters) and 9 (Non-Repeating Tones) will likely be the only parameters requiring modification for most sites.

1 — Cadence Parameters

A cadence is a sequence of on-off patterns with specific timings which repeat continuously. Typical examples are the ringback and linebusy tones. There are up to 36 cadences to choose from.

Some of the cadences are already defined whereas others are unconfigured. See Figure 32-2. To change a current definition, pick a cadence that is already defined. To create a new cadence, enter the number corresponding to an unassigned cadence.

Figure 32-2
The Cadence Parameter Screen

Cadence Parameter Screen

1 Ringback

3 Ringback

5 Reorder

7 Unassigned

9 Unassigned

11 Unassigned

13 Unassigned

15 Unassigned

17 Unassigned

19 Unassigned

21 Unassigned

23 Unassigned

25 Unassigned

27 Unassigned

29 Unassigned

31 Unassigned

33 Unassigned

35 Unassigned

37 View Cadence Parameters

39 Cancel

Cadence Parameters

2 Ringback

4 Linebusy

6 Unassigned

8 Unassigned

10 Unassigned

12 Unassigned

14 Unassigned

16 Unassigned

18 Unassigned

20 Unassigned

22 Unassigned

24 Unassigned

26 Unassigned

28 Unassigned

30 Unassigned

32 Unassigned

34 Unassigned

36 Unassigned

38 Restore all Cadence Data

40 Exit

Select one of the above:

Note: The values for these cadences should be obtained through product support.

To simply view the parameters of all cadences at a glance, enter option 37. A summary screen is displayed as shown in Figure 32-3. To obtain a hard copy, perform a print screen.

At least one ringback and one linebusy cadence must be defined. If they are not, you will not be allowed to exit the menu.

Figure 32-3
The View Cadence Parameters screen

View Cadence Parameters													
Report Code	Repeat Count	on 1 min	off 1 max	on 2 min	off 2 max	on 3 min	off 3 max	min	max	min	max	min	max
Ringback		896	1504	2536	4448								
Ringback		1728	2256	3536	4448								
Ringback		736	1248	2624	3360								
Linebusy		384	608	384	608								
Reorder		160	336	160	336	160	336	160	336	160	336	160	336
Ringback		32	64	16	32	992	1008	32	48				
Unassigned													
Unassigned													
Unassigned													
Unassigned													
Unassigned													
Unassigned													
Unassigned													
Unassigned													
*** Press carriage return to continue ***													

When you select one of the cadences displayed on the Cadence Parameter screen, the fields shown in Figure 32-4 will be presented one at a time. As you enter a value for a field and press <Return> (or accept the current value by pressing <Return>), the next field is displayed. For example, if you were to select item 5, the reorder cadence, you would see the following fields:

Figure 32-4
Cadence parameters

Cadence Menu Item 5	
Report Code	: Reorder
* Repeat Count	: 0
Number of Timing Patterns	: 3
On min time 1	: 160
On max time 1	: 336
Off min time 1	: 160
Off max time 1	: 336
On min time 2	: 160
On max time 2	: 336
Off min time 2	: 160
Off max time 2	: 336
On min time 3	: 160
On max time 3	: 336
Off min time 3	: 160
Off max time 3	: 336
Are these values correct? :	

* Do not change this field. It is not implemented in this release.

The following fields define each cadence:

- **Report Code** The name associated with the cadence definition, such as ringback and linebusy. Duplication of cadence names is possible for different patterns (to allow for the multiple tones that some countries use for conditions such as ringback). To view all possible report codes, use the up or down cursor while in this field.
- **Repeat Count** This field is reserved for future use and is non-functional in the current software release.
- **Number of Timing Patterns** Indicates the number of on-off patterns in the sequence. A cadence may be composed of a minimum of 1 and a maximum of 3 on-off sections which repeat themselves.
- **On min time/On max time** Indicates the duration of each on-time in the cadence pattern. The on-time must be specified as a range, as defined by a minimum and maximum value.
- **Off min time/Off max time** Indicates the duration of each off-time in the cadence pattern. The off-time must be specified as a range, as defined by a minimum and maximum value.

Note: We suggest that your range cover at least a 15 per cent deviation from the mean value (unless you have tone specifications that indicate otherwise), as tolerances can be quite wide for call progress tones.

The same timing pattern cannot be used for two or more different cadence report codes. If such a conflict exists, you will not be allowed to exit the cadence menu until each timing pattern is configured as distinctly unique from all others that have different report codes.

2 — DTF Band Numbers

This field is reserved for future use.

3 — Filters for DTF Band Numbers

This field is reserved for future use.

4 — Frequency Band Threshold Table

This option is used to change the sensitivity of CPTD to inband signals, SIT tone frequencies and voice. This should only be done in the case of unusually bad signal-to-noise ratios. Contact your Product Support representative before changing these values.

5 — Other Timeout Values

These timeout values may be useful for finetuning the action of CPTD in its recognition of a continuous tone (like a dial tone), voice, pager tone, ringback stopped and silence. Consult Product Support before making any changes.

Ringback Stopped Time

This value specifies the duration of silence that must be encountered before CPTD will report a break in the ringback cycle (indicating that a call has been answered) once CPTD has already reported ringback. This time must be greater than two times the maximum silent period in the ringback cadence.

Dialtone Detection Time

This value denotes the duration of a continuous inband tone that must be encountered before CPTD reports a continuous tone. This time must be more than twice the maximum on-time of any ringback cadence, and greater than the maximum on-time of any of the remaining cadences.

Report Code

Typically the continuous tone report code is “Dialtone,” however, in some cases, such as in the U.K., its significance is “Number Unobtainable.” Changing this field allows the continuous tone to be reported as such.

Fast Dialtone Detect Time

This is applicable to the Meridian Mail Modular Option GP platform only. It denotes the duration of a continuous tone that must be encountered upon initiation of an outcall. After this minimum time has passed, the system can begin sending the DTMF tones that place the call. At call initiation, the presence of a short duration of continuous tone is all that is required to determine the presence of dialtone, since no other call progress tones can be presented prior to the dialtone.

Minimum Long Silence Time

This value represents the minimum duration of silence necessary for CPTD to report that a call has been answered by silence. This time must be longer than the Ringback Stopped Time.

Long Silence Range

On AML/CSL systems only, this is the duration of silence required before a report is generated. This silence duration may have a value between Minimum Long Silence Time and (Minimum Long Silence Time + Long Silence Range). This value, if incorrectly configured, is particularly dangerous. Be absolutely certain of the value you want to enter.

Unrecognized Signal Timeout

This is the time that CPTD will continue to look for a valid signal starting from the time the call was initiated. If this time expires, then CPTD will send an “Unrecognized Signal” message; the subsequent result is usually that the application performs a call disconnect. This time should not be set too low, and cannot be set to less than 30 seconds. You need to provide enough time for complete signals to present themselves.

Paging Tone Duration

This is the time that must pass after the initial detection of a pager tone frequency, during which no extraneous signal must be encountered. This time must pass with no incident for CPTD to report call answered by a pager. By default, CPTD will detect a pager tone frequency of either 1000 Hz, 1400 Hz, or 1800 Hz.

The four remaining parameters: Ascending Envelope Frame Count, Descending Envelope Frame Count, Wideband Energy Frame Count, and Noise Energy Frame Count are used in combination to modify CPTD’s sensitivity to a call answered by voice. In general, increasing any of these values will make CPTD less sensitive to voice artifacts. These should never be decreased from their original values, only increased.

6 — SIT Data

This option is used to configure recognition of the Special Information Tone (SIT). This tone is a rising sequence of three tones usually signifying that a bad number has been called. You may change the minimum on/off times for each of the three tones as well as the code used to report it.

7 — Filter Coefficients

These values should only be changed on the advice of Product Support and as a last resort when all other attempts to get CPTD to recognize tones fails. These values drastically affect the way that CPTD filters and hence analyzes the incoming signal.

8 — Reserved Parameters

Reserved for future use.

9 — Non-Repeating Tones

This class of tones is very similar to cadences, and are used in conjunction with cadences. However, instead of repeating themselves continuously as cadences do, they are presented one time only and are preceded and followed by silence. The following fields are presented:

- **Report Code** An identifier for the non-repeating tone. Examples are ringback and confirmation tone. To view all possible report codes, use the up or down cursor while in this field.
- **Minimum Leading Silence Time** The length of the silence that precedes the tone.
- **On-Off-On Times (or On-Off-On-Off Times)** Defines the pattern of the non-repeating tone. To specify an on-off-on pattern define ontime 1, offtime 1 and ontime 2. Enter zeros for offtime 2 and ontime 3. To specify an on-off-on-off pattern, enter non-zero values for all fields.
- **Minimum Trailing Silence Time** The length of the silence that follows the tone.

10 — Country Name

The name of the country in which the Meridian Mail system is installed. This field holds up to 20 characters.

11 — Restore Complete CPTD File

When selected, this option causes the current configuration file to be replaced by a set of backup default parameters. This is intended as a safety mechanism in the event that parameters are altered to the extent that CPTD no longer functions. The backup that is restored is based on the configuration file that was present at installation. Therefore, any changes made since installation are lost. If this procedure does not work, contact your Product Support representative.

12 — Turn On/Off HELP

Selecting this option toggles Help on or off. When help is on, help text is provided with each menu selection.

13 — Exit

Selecting this option ends the program, with any parameter changes that you made being saved. These changes will not be activated until you reboot the system.

14 — Pager Detection Bands

Selecting this option allows you to enable/disable usage of individual SIT filter bands for detecting pager tones. The precise definition of each band is dependent on the coefficients used (see menu option 7), but if the default coefficients are used, then enabling SIT band 1 allows detection of a 1000 Hz pager tone, enabling SIT band 2 allows detection of a 1400 Hz pager tone, and enabling SIT band 3 allows detection of an 1800 Hz pager tone.

Chapter 33: Voice prompt information (vx_pkg)

This utility is used to determine which languages are stored under the language cabinets as well as which prompt file was copied from the tape. The utility is also used to determine the version of the prompt files.

Loading command

To load the package, issue the following command:

```
>load vx_pkg
```

Only one command is available in this utility. This command displays information about the language and the prompt files stored in the cabinet.

Command format

The format of this command is

```
>VXINFO <volume number> <cabinet name>
```

where <volume number> is the parameter for the volume on which the language exists, and <cabinet name> is the parameter for the language cabinet name.

If you do not enter the specified parameters, Meridian Mail prompts you for the volume number and the cabinet name as in the following example message.

```
Enter VolID where the prompt files are located: 2
Enter the Language Name of the prompt files: lang1
```

Note 1: The default is “lang1”. Use the up and down arrow keys to select more languages.

Note 2: The system offers you a list of valid cabinet names that you can choose from.

Volume numbers and language locations

The following is a list of systems with information on volumes where languages are located.

- On Card Option systems, all languages are on volume 1
- On all other systems, languages 1 and 2 are on volume 2
- On 1and 2-node systems, languages 3 and 4 are on volume 2
- On systems with three or more nodes, languages 3 and 4 are on volume 1

Chapter 34: Online DR reload

Sometimes it is necessary to rebuild a directory due to file corruption or file format changes. You can rebuild a directory using the RSC Online DR Reload utility. Before performing the reload, you should do a backup of VS1 which contains the organization directory. See the “General administration” chapter in the *System Administration Guide* for details on backup procedures.

Description of procedure

This online reload procedure creates a second directory and copies entries from the main directory to the second directory. The second directory is completely independent of the main directory and the procedure can be safely run and rerun on an active system. Once the second directory is successfully populated, it replaces the main directory.

This procedure should ordinarily be run only after node expansions or known file corruption. Directory file corruption is typically revealed by SEERs in the range of 3138 to 3154, or 3116 with a return code of 1007.

Note that there may be data inconsistencies on the system that are not due to directory problems. The Nortel support organizations have utilities to detect and correct data inconsistencies.

Procedure 34-1

Starting Online DR reload

Starting point: The RSC Level Access menu

- 1 Select Online DR Reload from the RSC menu.
- 2 When the utility has started, turn on the automatic print function by pressing <Ctrl-W> and then <P> to capture the output on paper.

Note: System administration such as adding or changing users cannot be performed during the online reload since the directory updates are dislocated.

After the command prompts you whether you should continue, it tries various keys to determine which key will retrieve the greatest number of entries. A check is then done for available disk space on VS1 for the second directory. If VS1 is too full, the utility exits. Space needs to be freed before rerunning the command, or the support organizations can do an offline DR dump and reload.

After the prompt, the utility proceeds to start the second directory server, add entries to the second directory from the first.

The utility will then update system distribution lists on the second directory. At the end, it will report any discrepancies between the main directory and the second directory. SEERs with SEER number 3171 indicate when the utility starts and stops and will report any errors.

Once the second directory is successfully datafilled, you are prompted whether to install it as the main directory. This happens quickly (a few seconds). Finally you are prompted whether to remove the old directory. In general, the old directory should be removed to free up VS1 space. You may wish to keep the old directory around, however, to permit support organizations to investigate the cause of the problem.

On non-hospitality systems, the procedure is simply to run the tool.

On hospitality systems, the PMSI link must be in bypass mode during the reload.

Procedure 34-2

Running Online DR Reload on hospitality systems

Starting point: The RSC Level Access menu

- 1 Place the PMSI link in bypass mode.
- 2 Go to the RSC Level Access menu and select the online DR reload utility.
- 3 Run the utility.
- 4 Place Meridian Mail in room resynchronization mode.
- 5 Perform a database swap.

- 6 Take Meridian Mail out of room resynchronization mode.

ATTENTION

In hospitality systems if a guest is checked out and another checked in to the same room before the database swap has completed (i.e., during steps 2 to 4) the later guest will hear the previous guest's messages.

Rerunning online DR reload

If errors have been encountered, the online DR reload can be rerun safely. It will remove the second directory that was previously created, and rebuild the second directory from the beginning.

Note: If you are getting persistent errors, contact your Nortel support representative.

34-4 Online DR reload

Chapter 35: OCS_UTIL

This utility gives you a real-time view of the Outcalling Server's actions. This information is displayed on an Outcalling Server status screen.

Accessing the Outcalling Server status screen

To access the Outcalling Server status screen, follow these steps.

Procedure 35-1

Accessing the Outcalling Server status screen

Starting point: RSC Level Access menu

- 1 Select "ocs_util" from the RSC Tools menu. The menu refreshes (the menu reappears after a few moments with your entry blanked out).
- 2 After the menu refreshes, press <Ctrl>+<W> and a new window appears containing several fields including one labelled "ocs_util".
- 3 Move the cursor (using the arrow keys) to the ocs_util field and press return. An angle bracket prompt (">") appears.
- 4 Enter **ocsdebug** at the prompt and press return. The Outcalling Server status screen appears.

Outcalling Server status screen

This is a read-only screen. The only possible action is to leave the screen with the [Exit] softkey (Chapter 1 outlines how to return to the RSC Tools menu after you exit this screen). While displaying this screen the Outcalling Server (OCS) will be slowed down because of the added overhead of communicating its actions to this screen.

The Outcalling Server status screen has three different sections: Sessions and channels, Queues, and Actions for the future. An example is shown in Figure 35-1.

Figure 35-1
Outcalling Server status screen

```

OutCalling Server

Sessions      Voice  MultiM  Voice Queues  Items  Delivery  Time
Processing    0      0      Send Queue    0      **/**/**  **:***:
Revalidate    0      0      Deferred List 1      28/09/93  16:15:00
Pull Plug     0      0      MultiMedia Queues
Available     9      1      Send Queue    0      **/**/**  **:***:
Unavailable   3      5      Deferred List 0      **/**/**  **:***:

Action within the next 5 minutes
None.

Future Actions
Commit Audit File 28/09/93 16:21:11
Pull Plug Voice   **/**/**:**:**
UnBlock Voice     **/**/**:**:**
Recover Requests  **/**/**:**:**
Present Time      28/09/93 16:08:46

MultiM **/**/** **:***:
MultiM **/**/** **:***:
Recovery Inactive

```

```

Exit

```

Sessions and channels

The Outcalling Server has a pool of data structures called sessions. When a request (RN, DNU, or FP) needs to be delivered, it is assigned to a session. An attempt is then made to find a channel for the session. RN and DNU require a voice channel. FP requests require multimedia channels.

The screen lists a number of counters (# of Channels) beside each of the different possible states of a session.

Processing

This is the number of sessions that currently have a channel assigned and are actively trying to deliver a request.

Revalidate

This counter refers to those sessions that had a channel but were unable to complete the delivery. These sessions are waiting for the next available channel. For example, a channel should have been available, the request was assigned to a session, but when it came to acquiring a channel, all the channels were in use. There are also a number of error recovery situations where this situation may arise.

Pull plug

This counter refers to the number of sessions that are on a timer for critical software points during which an RN or DNU session switches to another voice service. When an RN or DNU request is made, an outcalling agent places the call. If the response is non-busy or answered, this agent switches to another kind of voice service, such as Voice Messaging, and proceeds with the request. When this switch is made, the outcalling agent dies as part of the process. The OCS waits a short period of time (a timeout value) during which the new service indicates that it is in operation. If the switch to a new service is not successful (i.e., the OCS doesn't receive a signal from the new service), then the OCS resets the session state to "revalidate" (to try again).

Available/Unavailable

The total number of sessions that can be made on any system is the total number of 32k channels. The administrator can limit the number being used for voice outcalling from the Outcalling Administration screen. For fax outcalling, the limit can be set in the Fax Administration screen. The number available matches the numbers set in this screen. The number unavailable represents the remaining balance with the total number of 32k channels.

Note: The number of 32k voice channels is represented here by the number of channels given as the first parameter after the "V" to the Outcalling Server from the startlist, not the true number of 32k channels. Normally these will match.

The number of 32k multimedia channels is represented here by the number of channels given as the first parameter after the "M" to the Outcalling Server from the startlist, not the true number of 32k channels. Normally these will match.

Queues

There are really two queues within the OCS, called the Send Queues. These queues contain all the requests that are waiting for a session/channel.

The Deferred Lists are not queues. They list those requests that are to be handled in the future. These are sorted according to the time at which they should occur.

The screen lists the number of items in each structure and the delivery time for the first element in each.

Actions

One of the following actions may be performed:

- Move items from the deferred list to the send queue.
- Pull the plug on a session.
- Commit the Audit Trail (committed every few minutes).
- Release the server from being blocked from acquiring a channel.

The server may become blocked when the OCS has tried to acquire a channel but was unable to because of a lack of available channels or because of an error situation. The OCS will wait a short period of time and try again. (The wait time is configurable from the Outcalling record using AD_UTIL.)

The *Action within the next 5 minutes* field gives a textual explanation of what the next action will be. The specified time (in centi-seconds) is the amount of time left before the action will occur.

At the bottom of the screen there are time stamps indicating actions for the future. They include:

- Commit audit file
- Pull plug (voice)
- Pull plug (multimedia)
- Unblock (voice)
- Unblock (multimedia)
- Recov (followed by a recovery information field)

The present time value is the time at which the OCS last updated the screen.

Chapter 36: Enable features

Meridian Mail 12 supports online enabling of features on the Message Services Module (MSM). The features that can be enabled online are

- MultiCustomer
- Dual Language Prompting
- Voice Menus
- Multi SMDI
- Voice Messaging
- AMI
- Voice Forms

ATTENTION

The Enable Features utility only applies to Meridian Mail systems running on an MSM.

You enable these features using keycodes. Note that the normal keycode rules concerning decreasing hardware and features apply.

When new features that *cannot* be enabled online are included in a keycode, the operation continues but the user is advised that the particular feature could not be enabled. Similarly, if the languages or hardware that *cannot* be enabled online is included in the keycode, the operation continues but the user is advised that the language or hardware item could not be enabled.

Procedure 36-1
Enabling features online**Starting point:** RSC Level Access menu

Note: The values shown throughout this procedure are for reference purposes only. The values will vary depending on the site configuration.

- 1 Select the Enable Features option from the menu.

The following messages appear:

```
Package COBRA_PKG.AREA loaded.  
Starting RW100 server  
RW100 has been started
```

The screen refreshes and the system configuration is shown as follows:

```
System Configuration  
  
                                Old System      New System  
Software Release                : 12.09.0  
Serial Number                   : siteabc  
Platform                        : MSM  
MSP Nodes                       : 2  
SPN Nodes                       : 8  
T1 Nodes                        : 4  
Storage Hours                   : 1200  
Max Languages                   : 1  
  
CHANNELS  
Max Full Service                : 192  
Min MultiMedia                  : 0  
Max Voice                       : 192  
Total Physical                  : 192  
Basic Service                   : 0  
NMS Locations                   : 0  
  
-----
```

```
Enter the keycode for the serial number siteabc  
Enter 4 Character Block 1 :
```

- 2 Enter the first block of four characters.
- 3 Enter the second block of characters.
- 4 Enter the third block of characters.
- 5 Enter the fourth block of characters.

6 Enter the fifth block of characters.

If the keycode you have entered is invalid, the following message and prompt appear:

```
THAT KEYCODE IS NOT VALID
DO YOU WISH TO TRY AGAIN ? Yes
```

- a. If you wish to reenter the keycode, respond Yes to the prompt and go to step 2.
- b. If you do not wish to reenter the keycode, respond No to the prompt. A message will appear informing you of the following:

```
Feature Enable aborted by user.
```

```
Press RETURN to continue
```

If the keycode you have entered is valid, the screen refreshes and the following appears:

System Configuration

	Old System	New System
Software Release	: 12.09.0	12.09.1
Serial Number	: siteabc	siteabc
Platform	: MSM	MSM
MSP Nodes	: 2	2
SPN Nodes	: 8	8
T1 Nodes	: 4	4
Storage Hours	: 1200	1200
Max Languages	: 1	1

CHANNELS

Max Full Service	: 192	192
Min MultiMedia	: 0	0
Max Voice	: 192	192
Total Physical	: 192	192
Basic Service	: 0	0
NMS Locations	: 0	0

```
-----
Enter 4 Character Block 4 : 4d4d
```

```
Enter 4 Character Block 5 : 5e5e
```

```
Is this correct ? Yes
```

- 7 If any of the values for the new system is incorrect, respond No to the prompt.

The screen refreshes to the System Configuration screen, which shows only the old system values.

a. Go to step 2.

- 8 If the values for the new system are all correct, respond Yes to the prompt.

The screen refreshes and appears similar to the following:

Feature	Old	New	Feature	Old	New
SMDI	: X	X	Voiceforms	:	
Meridian ACCESS	:		VMUIF	:	
AdminPlus	:		Multiple Admin	:	
AMIS	:		Meridian Connections	:	
HVS	:		Fax on Demand	:	
Networking	:		Multiple Customer	:	X
NMS	:		Bilingual Prompting	:	
Outcalling	:		Voice Menus	:	
Multi SMDI	:		Meridian Mail AutoAdmin	:	

Is this correct ? Yes

Note: Features that will be enabled by this operation are indicated by an "x" in the New column.

Note: The information on the screen will vary for each site.

- 9 If any of the information on this screen is incorrect, respond No to the prompt.

The screen refreshes to the System Configuration screen which shows only the old system values.

- 10 Go to step 2.

- 11 If the information on the screen is correct, respond Yes to the prompt.

Note: If there are no new features to be online enabled, you will be notified and prompted if you would like to enter another keycode.

The screen refreshes and lists the features that will be enabled as follows:

Online Feature Enable

- Multi Customer Feature will be online enabled

Saving system record to disk

Finished updating all accessible customer profiles.

Features Enabled has successfully completed.

Press RETURN to continue

Note: Any new features that cannot be online enabled are listed and you are advised to run an off-line comprehensive upgrade. See the *System Installation and Modification Guide* (NTP 555-7001-215) for more details.

- 12 Press <Return> to continue.

The RSC Level Access menu appears.

Chapter 37: Change serial number

Note: This utility is available for all systems with the exception of Card Option systems.

This feature will allow sites to change their serial number to match the 11-digit serial number of their switches. This will have no impact on the day-to-day operations of the system but will mean end-users will only be required to maintain one serial number for their Nortel products.

Since serial numbers are the heart of our security, we will be using keycodes to control the change of serial numbers. A keycode designed to change serial numbers can be used to change only serial numbers—it cannot be used for other system operation functions such as storage expansion.

Changing the serial number

Follow the steps outlined below to change a site's serial number.

Procedure 37-1 **Changing the serial number**

Starting Point: RSC Level Access menu

- 1 Select the Change Serial Number option.

The following messages are displayed:

Loading Change Serial Number Utility.

Starting RW100 server.

Please enter the Change Serial Number Keycode.

Enter 4 Character Block 1

- 2 Enter the first block of (alphanumeric) characters.

- 3 Enter the second block of characters.
- 4 Enter the third block of characters.
- 5 Enter the fourth block of characters.
- 6 Enter the fifth block of characters.
- 7 Use this step if the keycode you have entered is invalid. If the keycode is invalid, the following message will appear:

```
THAT KEYCODE IS NOT VALID  
DO YOU WISH TO TRY AGAIN ? YES
```

- a. If you wish to reenter the keycode, respond Yes to the prompt, and go to step 3.
- b. If you do not wish to reenter the keycode, respond No to the prompt to quit the operation.

The RSC Level Access menu appears.

- 8 Use this step if the keycode is valid. The following is an example of the message displayed on your terminal, if your keycode is valid.

```
About to change serial number from : adminx24  
                                     to : system192
```

```
Continue ? Yes
```

- a. If you wish to continue the operation, respond Yes to the prompt.

The following message appears before you are returned to the RSC Level Access menu :

```
The serial number has been changed.
```

- b. If you do not wish to continue, respond No to the prompt.

The RSC Level Access menu appears.

Chapter 38: Online storage expansion

Since Meridian Mail 11, MSM customers have been able to increase their storage capacity from 150-hour to 300-hour, or from 200-hour to 400-hour, disk packs without system down time.

Note: This utility is available only for MSM systems.

This increase in storage is a two step operation.

- The first step is to change to the 300- or 400-hour disk packs. This step can be done by the system administrator from the MMI Disk Maintenance screen.
- The second step is to run the online storage expansion utility (sc_flexpkg) to create new volumes and update system files. (The result is the creation of :BOOT100:FIELDSUPPORT.) This step is the RSC or ETAS level operation.

Note: Not all 150-hour or 200-hour disk packs need to be expanded at the same time, although it is highly recommended.

Step 1: Changing the disk packs

The following is a list of actions that the system administrator must complete before the online storage expansion utility can be run. If these steps were not successfully completed, there may be problems in successfully completing the expansion operation.

Note: The following assumes that 150-hour disk packs are to be expanded. These steps are also applicable to 200-hour disk packs.

- 1 Identify all 150-hour disk pairs that need to be expanded.
- 2 Make sure that the appropriate 300-hour disk packs are on hand before the operation is to begin.
- 3 Replace the 150-hour disk packs, on the even nodes of all selected node pairs, with 300 hour disk packs.
- 4 Synchronize the disks on the even nodes from the MMI Disk Maintenance screen.

Synchronization for each 150-hour disk pair takes approximately 45 minutes to complete and all of them can be done in parallel.
- 5 When the disk pairs are fully synchronized, replace the 150-hour disk packs, on the odd nodes of all selected node pairs, with 300-hour disk packs.
- 6 Synchronize the disks on the odd nodes from the MMI Disk Maintenance screen.

Synchronization for each 150-hour disk pair takes approximately 45 minutes to complete and all of them can be done in parallel.

When all selected disk pairs are fully synchronized, the system administrator can contact RSC or ETAS personnel to complete the expansion.

Step 2: Running the online storage expansion utility

After the system administrator completes the tasks identified in Step1, he or she will require the assistance of RSC or ETAS personnel to complete the operation. The following is the procedure for the final step in an online storage expansion.

Note: This step cannot be performed by the system administrator.

ATTENTION

Online storage expansion is a utility that can be rerun if the operation fails to complete. The log file stores the result of the operation.

If the operation does not successfully complete, ensure that the system administrator has performed all of the tasks that he or she was responsible for completing.

Procedure 38-1

Performing an online storage expansion

Starting point: RSC Level Access menu

- 1** Select the Online Storage Expansion option.

When the online storage expansion utility is started, the following messages and prompt appear:

```
This Online Storage Expansion utility creates new
volumes for the new 300/400 hour disk packs that you
have just installed. Please check to make sure that the
new disks are properly installed and synchronized
before continuing.
```

```
Please consult the NTP for this utility before
continuing with this operation.
```

```
Do you wish to continue? Yes
```

They are properly installed if the disk status for both the prime and shadowed disks are read/write and their SCSI IDs are changed from 0 and 8 to 2 and 4 respectively on the MMI Disk Maintenance screen.

- 2** Select Yes to continue.

You will then be prompted as follows:

```
Please select the node pairs to be storage expanded : Done
```

- 3** Select the node pairs to be expanded using the up and down arrow keys.

If you have selected node pairs that cannot be expanded, you will be notified.

- 4 When you have completed entering all of the node pairs, select Done at the prompt.

The following messages and prompt will appear:

```
You have selected to perform storage expansion on the
following node pair(s):
```

```
3 & 4
```

```
7 & 8
```

```
All required information has been entered.
```

```
Do you wish to continue, re-enter information, or abort ?
```

- 5 Select Continue to continue with the operation if the selected node pairs are correct.

Note: *This step takes approximately 15 to 20 minutes to complete depending on the number of node pairs to be expanded.*

This step expands the storage capacity of the selected node pairs accordingly. The first thing the online storage expansion does is to synch the new disks, as seen in the following messages:

```
Syncing new disks
```

```
New disks synced successfully
```

The second thing it does is to register the new disks, as seen in the following messages:

```
Registering new disks
```

```
New disks registered successfully
```

```
Node 3 disk size is 1382134.
```

```
Node 4 disk size is 1382134.
```

```
Node 7 disk size is 1382134.
```

```
Node 8 disk size is 1382134.
```

The next thing it does is to create the required volumes, as seen in the following messages:

```
Creating required volumes
```

```
VS204V created with 159576 blocks, blksize = 8192
```

```
VS204T created with 47104 blocks, blksize = 1024
```

```
CACHEPT created with 1250 blocks, blksize = 1024
```

```
CACHEPV created with 3500 blocks, blksize = 8192
```

```
CACHEST created with 1250 blocks, blksize = 1024
```

```
CACHESV created with 3500 blocks, blksize = 8192
```

```
VS208V   created with 159576 blocks, blksize = 8192
VS208T   created with 47104 blocks, blksize = 1024
CACHEPT  created with 1250 blocks, blksize = 1024
CACHEPV  created with 3500 blocks, blksize = 8192
CACHEST  created with 1250 blocks, blksize = 1024
CACHESV  created with 3500 blocks, blksize = 8192
New volumes created successfully
```

It then starts the new VS and creates the cabinets, as seen in the following messages:

```
Starting new VS
New VS started successfully
```

```
Creating required cabinets
New volumes created successfully
```

The hardware database will be updated next to create the records for the newly registered disks, as seen in the following messages:

```
Updating hardware database
Hardware database updated successfully
```

The startlist will be recreated to incorporate the information of the new VS, as seen in the following messages:

```
Creating startlist file
Startlist re-created successfully
```

The VS will then be shut down and the system record will be updated.

```
Shutting down new VS
Shutting down VS204
Shutting down VS208
```

```
Saving system record to disk
System record updated successfully
```

Lastly, the startlist file will be rechecked.

```
Re-checking startlist
Startlist checked successfully
```

The online storage expansion was completed successfully.

Press RETURN to continue:

*The result of this operation is stored in
:BOOT100:FIELDSUPPORT:FLDSKLOG.TEXT*

6 Press <Return>.

The RSC Level Access menu appears.

The log file

The process and result of the online storage expansion operation is stored to the log file fldsklog.text in the :BOOT100:FIELDSUPPORT directory.

The log file appears similar to the following when you type it out.

```
Online Storage Expansion begins: 14/02/99 23:45:59

Reading the system record

You have selected to perform storage expansion on the
following disk pair:
    3 & 4
    7 & 8

Syncing new disks
New disks synced successfully

Registering new disks
New disks registered successfully

Creating new volumes
New volumes created successfully

Starting new VS
New VS started successfully

Creating required cabinets
New volumes created successfully

Updating hardware database
Hardware database updated successfully

Creating startlist file
Startlist re-created successfully

Shutting down new VS
Shutting down VS204
Shutting down VS208
```

```
Saving system record to disk  
System record updated successfully
```

```
Re-checking startlist  
Startlist checked successfully
```

```
The online storage expansion was completed successfully.
```

```
Online Storage Expansion ends: 14/02/99 23:59:01
```

Note: This operation took approximately 15 minutes to complete.

Helpful hints about the Online Storage Expansion utility

This section provides some helpful hints and answers about the online storage expansion utility in the form on questions and answers.

Question: What should I do if, in the first half of Step 1 (that is, while changing the disk packs), I pull the disk on the odd node instead of the disk on the even node on a selected node pair?

Answer: You should still synchronize the disks by going through the same synchronization steps. However, this time, it will synchronize from the even node's disk to the odd node's disk. The SCSI ID of the odd node's disk will be changed from 0 to 2.

The next step will be to replace the disk on the even node and synchronize from the odd node to the even node.

When the disks are synchronized, Step 2 (that is, running the utility) can be applied.



CAUTION **Risk of system failure**

Do not simply reinsert the disk into the odd node and pull the even disk. This will disable *all* the disks on these two nodes.

The mailboxes residing on the volume on these two nodes will not be accessible anymore.

Question: What should I do if, in the first half of Step 1 (that is, while changing the disk packs), I pull a disk on the wrong node?

Answer: You should reinsert the disk and immediately synchronize the disk pair from the MMI Disk Maintenance screen.

Question: What should I do if the synchronization was broken because the new disk was bad?

Answer: You should run diagnostics (from the MMI Disk Maintenance screen) on the new disk, and if it passes, synchronize the disk again. If it still fails, replace the new disk and resynchronize the disks.

Question: What should I do if in the middle of the synchronization, the MSP switchover occurs or the system reboots itself?

Answer: If the synchronization was not completed, you can still synchronize the disks as before when the system recovers itself. However, you should always try to identify the problem for the switchover or reboot before continuing with the online storage expansion.

Question: What should I do, if in the second half of Step 1 (that is, while changing the disk packs), I pull the 300-hour disk pack on the even node instead of the disk on the odd node on a selected node pair?

Answer: When this happens, the 150-hour disk pack on the odd node would still be the active disk. You have to reinsert the 300-hour disk pack into the even node and resynchronize the disks before you can continue with the next step.

Question: What should I do, if in the first half of Step 1 (that is, while changing the disk packs), I pulled a disk on the wrong node and did not realize the mistake until after the synchronization was complete?

Answer: You should wait until the synchronization is complete and then unsynchronize the new disk on the node from the MMI Disk Maintenance screen. Then reinsert the original 150-hour disk and resynchronize the disk pair.



CAUTION
Risk of disk damage

Do not interrupt the disk synchronization while it is in progress. It may damage the new disk.

Question: What should I do if in the middle of Step 2 (that is, while running `sc_flexpkg`), the MSP switchover occurs or the system reboots itself?

Answer: You should look at the log file `"BOOT100:FIELDSUPPORT:FLDSKLOG.TEXT"` to determine if step 2 was completed successfully. If it was not, rerun `sc_flexpkg`.

Question: What should I do if an error occurred in the middle of step 2 (that is, while running `sc_flexpkg`) and the operation was aborted?

Answer: You should first determine what caused the operation to abort by looking at the generated SEERs (if any) and the log file.

Do NOT continue with the operation if the problem points to a hardware database or system record corruption. Contact the Northern Telecom (Nortel) Product Support group immediately.

If the problem is anything else other than a hardware database or system record corruption, rerun the operation. If the problem persists, contact the Nortel Product Support group.

Question: When step 2 was rerun, I was prompted with the following message:

```
Volume 20x already exists but has not been added to the
system record.
```

```
Performing storage expansion on these two nodes will
DESTROY ALL DATA on this volume!
```

```
Are you sure you want to continue ?
```

What should I do?

Answer: If you are absolutely certain that the selected node pairs were not completed in the previous online storage expansion, you can respond Yes and continue with the operation.

Otherwise, respond No and perform the operation only on the other node pairs.

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Meridian Mail

System Administration Utilities (RSC)

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